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ABSTRACT

In addition to the special addresses, the proceedings contain speeches on the following topics: (1) the history of sport, (2) teacher education, (3) basic instruction, (4) intramural athletics, (5) research, (6) foreign relations, and (7) intercollegiate athletics. Some of the materials presented in the research section include papers on physical fitness, swimming, isometric exercises and muscular strength, and teacher tasks. Also presented in the proceedings are the president's report, financial reports from the standing committees, the president's committees, the continuing committee, and the joint committee. Lists of NCPEAM members, committee members, and officers are also included. (RC)

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## 70th

# Proceedings
# Annual Meeting

December 28–31, 1966
San Diego, California

# National College Physical Education Association for Men

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70th

Proceedings
Annual Meeting

December 28–31, 1966
San Diego, California

# National College Physical Education Association for Men

1201 Sixteenth Street, N.W., Washington, D.C. 20036

**NEXT MEETING**

**January 10-13, 1968**
**Houston, Texas**

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| Arrangements | Norman Charlton |
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| Reception and Banquets | Bob Bland |
| Registration Information | Dale Spence |

## Convention Notes for the 71st Annual Convention

| | |
|---|---|
| Convention City | Houston, Texas |
| Convention Hotel | Rice Hotel, P.O. Box 53028 |
| Convention Dates | January 10-13, 1968 |

# NCPEAM Committee Chairmen 1967

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| | |
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| Constitution | Frank W. Bearden, Rice University |
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| Public Relations | Troy Hendricks, University of Arkansas |
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| Resolutions | Spurgeon Cherry, University of Florida |

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| Relationship of NCPEAM and WCMPES | John E. Nixon, Stanford University |
| Time and Site Committee | William H. Schnitzer, University of Cincinnati |

## PRESIDENTIAL ADDRESS

# Toward a Better Tomorrow

**RICHARD J. DONNELLY**
University of Minnesota

In searching for a topic on which this president's address should be focused, I turned first to my many predecessors in the presidency and the topics they selected for an occasion similar to this one today. I was not surprised to find that a wide variety of subjects had been covered. The topics seemed to classify themselves into three categories: (1) history or past developments in the association, (2) current problems or innovations, and (3) future developments. By far the greater number of former presidents addressed themselves to recounting what this grand association had done in a bygone era or to discussing current problems or innovative practices in the field. Only very few have tried to look ahead to the future and even then only with a short-range view.

Being a historian at heart, I was sorely tempted to orient my remarks to the past achievements of our Association. Being an administrator, I was also pulled in the direction of discussing current problems or new ideas and practices emerging today. Being a foolish man, I decided to try my hand at looking into the future. Knowing full well that no man by himself can predict the future with any degree of accuracy, I nevertheless begin the task with excitement, curiosity, and enthusiasm. And I speak with conviction, because the more I have read and reflected on the possibilities in the future, the more convinced I have become that we are in the infancy of the most colossal epoch mankind has ever traversed. This exciting and magnificent future is not just around the corner. It is already here. We are on its doorstep, in the process of taking the first step across the threshhold.

### Population

Of all the population statistics that stand out there are two: (1) the truly urban character of our culture and (2) the large number and percentage of people in the age bracket 5–24.

Today, the population of the United States is estimated at 192 million. In thirty years, it will be over 350 million and growing at a rate of more than 12,000 citizens each day or, in one year, the addition of a city the size of Philadelphia. By 1970, 67 percent of the people will live in a Standard Metropolitan Statistical Area (i.e., "a county or group of contiguous counties . . . which contains at least one central city of 50,000 inhabitants or more or 'twin cities' with a combined population of at least 50,000"); by 1980, 70 percent. Almost 40 percent of the total population will be concentrated in three large "supercities." One will be in the East stretching from Boston to Norfolk; one in the Midwest from Milwaukee to Cleveland; one on the West Coast from San Francisco to San Diego.

The numbers of future students and teachers are enough to stagger the most imaginative minds. Only a few years ago one-fourth of our population was in school. In a few years hence, over one-third will be thus occupied. Of children under 5 years, there were 20 million in 1965; there will be 32 million by 1985. Of children between 5 and 19 years, there were 56 million in 1965; there will be 79 million by 1985. In the 20–24 year age bracket, there were 13 million in 1965; there will be 21 million by 1985. In the year 1985, our population in the ages 5–24 will total over 100 million, and most will be students.

In terms of teachers, in 1940 there were 1,100,000 teachers in our elementary, secondary, and collegiate institutions. In the fall of 1966, the number had risen to over 2,507,000, and by 1974 the total will be 3,083,000. For the sake of comparison, there will be more teachers than farmers.

## Education

In education, three items are most striking to me: (1) the absolutely incredible explosion of knowledge, (2) the finances needed for education, and (3) the unlimited potential of a burgeoning educational technology.

The increase in knowledge discovered by man is truly staggering in this twentieth century. Scholars have estimated that the world's gross supply of knowledge was doubled for the first time between the dawn of history and 1700. It was doubled the second time by 1900, again by 1950, and yet again by 1960. In the words of B. Frank Brown, "the amount of knowledge becoming available in many fields is not merely staggering, it is paralyzing." It is likely that the world's gross supply of information will be doubled every ten years. This means that an individual must become a ceaseless and life-long learner to avoid slipping into obsolescence.

In terms of economics, education is big business and it is *the* growth industry in America. For example, ten years ago $21.8 billion was spent on education; this year, over $60 billion. In capital outlay expenditures for public elementary and secondary education and for higher education, a total in excess of $100 billion will have been spent between 1955 and 1975.

What are the most likely changes in our educational enterprise in the immediate years ahead? In capsule form I give you only an intimation of the portents: (1) more education for everybody (even for the "traditional" school drop-out), (2) more education for the educated elite (e.g., graduate engineers will have to be retrained four times during their earning years to enable them to keep up with the technology explosion), (3) new forms of metro-educational government, (4) the increasing role of federal government and federal control in education at all levels, (5) less local control and attachment, and a more cosmopolitan attitude, (6) more intercity, interstate, regional, multisystems cooperation, compacts, and sharing, (7) radical changes in the traditional teacher-student relationship, (8) programs designed to better meet the individual needs of students but less individual personal attention given to each student, (9) more and better developed specialists in all of the educational personnel positions, including teachers, service personnel, and administrators, and (10) a fantastic increase in educational technology.

## Cybernetics

With this, let's now talk about that most fabulous of all technologies—cybernetics. Cybernetics announces the age of truly complete automation. The impact that cybernation will have on our society and our lives in the future is virtually impossible for us to visualize at this point in history. Only when we view it in terms of the overall saga of man does the potential of cybernation begin to emerge. I will use the language of Alice Mary Hilton to describe this story.

> For half-a-million years homo faber (man as maker) has busily perfected the technology that has had only one purpose: The disemployment of human beings from the production process. The history of technology is man's search for labor-saving or, more accurately, labor-performing devices. . . .
>
> In the past, it was easier for mankind to adjust to change. For the pattern of change is a sharply rising curve that started with a long, almost horizontal stretch, accelerated barely a few centuries ago, and is now running at breathtaking speed in an almost straight vertical ascent. . . .

> Until the computing machine was invented, the most important event in history was undoubtedly the invention of the plough—the basic tool of the agricultural revolution. Man could change from a foodgatherer into a food producer and he could begin the slow and arduous process of changing the earth from a jungle inhabited by wild animals into a garden fit for human beings. . . .
>
> The invention of the computing machine is as monumental an event in human history as the invention of the plough ten millenia ago. It may not seem so cataclysmic an event to us because we are too close to see it in all its ramifications. . . .
>
> There is little doubt that enormous change is in store for us. Not only should we expect more change, but we must brace ourselves for qualitative change. The inventions that have so obviously affected us produced vast changes but they were of a quantitative rather than a qualitative nature. . . .
>
> The computing machine is changing man's very relationship to the universe, as the plough irrevocably did ten millenia ago. The computing machine is separating man from machine systems by releasing him from his supervisory and monitoring chores. A cybernated system—unlike the mechanized system of the precybercultural era—is self-sufficient. Man can leave the production process to the computing machine and learn to be free. Freedom is a formidable task. It imposes—along with many privileges that are difficult to exercise—enormous responsibilities. For when one is no longer tied to the machine, one may also no longer lean upon it and one is responsible for one's own actions and for the way one lives one's life. . . .
>
> We are ill-prepared to face such terrifying freedom—particularly in our society. Our stiff Puritan ethos has held us so rigidly we could not know how much of our posture was held up by our own backbone. And only now, as the Puritan stays are beginning to crumble, does it begin to dawn on us that we are shaking in our well-shined boots.
>
> We have much to do, and we have little time. Acceleration even is accelerating! That cybernated systems can be designed—much of the design being done by computing machines—to perform virtually all labor, all the repetitive chores men do from dawn to dusk, is not seriously disputed by the experts. Differences of opinion are concerned with the timing.[1]

Bellman, one of the foremost authorities on automatic control has estimated that 2 percent of the existing labor force could produce our gross national product. He later adjusted this estimate to .2 percent. In reality it matters little whether the percentage is .2 percent, 2 percent, 20 percent, or even higher. Any substantive change in the requirements of our total needed labor force will induce deep and radical changes in our culture, our habits, our recreation, our morals, our lives—changes that we are incapable of visualizing today. That these changes will come is certain. How fast? No one can tell, but we do know that the tempo of change is accelerating. Prime Minister Wilson observed, in an address two years ago, that as many changes will occur in the next fifteen years as have occurred in the preceeding three hundred. Gunnar Myrdal says that the long run is now at most a decade or two.

## Physical Education

Let us turn now to the field all of us represent—physical education. The future holds for us so many possible changes that it would take too long to discuss them all. Hence, I intend to merely mention several. Let me preface my remarks by indicating that my use of the term physical education is broad in meaning. I intend it to cover exercise, sports, and dance programs for all age levels, both in and out of school.

In the area of facilities, we should see more facilities, units that are larger, more elaborate, more functional, more usable, easier to maintain and keep clean, easier to supervise, and so on. In *indoor* facilities we should have more specialized areas and less multiple-use areas. The very pressure of numbers of users should dictate facilities just as specialized as swimming pools. To name a few more specialized areas: golf, gymnastics, weight training, wrestling, judo, fencing, basketball, dance, handball, paddleball, squash, tennis, adapted activities, badminton, volleyball, bowling, archery, track and field, baseball, ice skating. Many colleges and universities have such specialized facilities today. This trend will continue and eventually slip down into the schools and communities. The era of the old multiple-use gymnasium for everything under the sun will gradually draw to a close. Our buildings will have automated TV systems for supervision of all facilities from a central control office. Also, they will have automated controls for heating, lighting, air (temperature and humidity) control, cleaning and routine maintenance, equipment and towel dispensing, locker assignments, telephone answering, to mention a few of the more obvious. Facilities will be scheduled for class, recreational play, and competitive intramurals with automated devices. New kinds of construction and equipment materials will improve the safety aspect of both facilities and equipment.

---

[1] Alice Mary Hilton, "Homo Sapiens, Homo Faber, and Homo Poeta," *Feedback—The Cybercultural Review*, IV, Nos. 3–4 (March-April, 1966), 12–14.

In outdoor facilities, the biggest single advance will be in covered arenas for the traditional outdoor sports, such as football, baseball, and tennis. Increasingly, uncovered outdoor facilities will be lighted for use around the clock. New and improved types of synthetic playing surfaces will be developed. The traditional grass playing areas will give way to something better, safer, and easier to maintain. The routine maintenance will be automated, dispensing with the need for ground crews as we know them.

In the area of teaching sports skills, radical changes will gradually evolve. Automated teaching aids and automated instructional materials will change the traditional role of the physical education teacher. We will see a hierarchy of specialists with the thinkers and researchers at the apex of the pyramid. Even at the practitioners level (currently the activity teachers) we will have a two or three-level hierarchy, such as master teacher, teacher technician or apprentice, and technologist. Other specialists will also emerge. One important new specialist will be the clinical diagnostician and leisure counselor. His role will be to review the data secured by computer systems of the physical and medical appraisal given of each student. The counselor will outline recommended activity programs for the student to follow. The student will then report to the desired activity station scheduled by a computer system. The station will be manned by the master teacher or one of his assistants. Fundamental skills instruction will be programed in such a way that the student can teach himself with a minimum of teacher interference. Instant replays of skills the student practices will be shown and compared automatically with the best known methods of execution. Organized classes in skills will be conducted in much the same way.

Individual exercise programs will be designed by the computer systems according to an individual's needs based on the appraisal reported by the computer. Progress can be checked by the computer. Individual exercise programs will not only be "respectable" but absolutely essential. But perhaps we may find a biochemical pill or electronic substitute for the physiological values of exercise. Biomedical and space research will expend considerable efforts in this direction.

Our whole system and ideals of individual freedom will probably change markedly. Areas of freedom we now consider essential may be discarded and whole new areas of individual freedom emerge. Our philosophy of sports and ethics in sports competition may have to undergo a radical change. Certainly, the computer systems will introduce problems of ethics in sports competition that we have never even dreamed of up to this point. Of one thing I feel sure: it will no longer be appropriate to draw comparisons between the ancient Roman civilization and our own, because not only are the cultures radically different, but even people may be basically different. Perhaps even the very basis of human nature (psychologically, mentally, emotionally, spiritually) will be changed in our computer age.

## Examples of Cybernetics in Education

Sounds incredible? Yes. Impossible? No. Granted these developments will not occur tomorrow. But already, preliminary evidence indicates that the whole face of education will change and physical education will also. If you don't believe it, let's turn to very recent developments reported in *EDUCOM*, the bulletin of the Interuniversity Communications Council. An article on a projected Health Sciences Information Center (HSIC) describes such a system.

> The HSIC program would be housed in an appropriately designed building. This building should be connected by telephone lines, coaxial cables and/or a microwave receiver and transmitter, located on the roof, with all the buildings of the health science colleges, with the university hospitals, with the university library, and with the university's general television and radio studios. All offices, classrooms, conference rooms, experimental rooms, and laboratories in the building should have telephone and coaxial cable outlets for connecting computer terminals. Numerous student or faculty carrels would be located throughout the building. A simple desk and chair would be the most common type of carrel at first. Later these may be converted to one or more types of automated carrels—prefabricated modular soundproof booths equipped with typewriter remote computer terminals, modified TV screens or cathode ray tubes with pencil lights and/or microform readers.[1]

The HSIC program would make possible many things on an automated basis such as conventional library services, transmission of copies of documents by long distance xerography or telefacsimile process, storage and retrieval services, lists of citations and of references, an on-demand bibliography on any biomedical topic, and sets of abstracts. It would even edit bibliographies and reference lists, make available translation service, provide audiovisual materials.

> An individual student could see or hear TV or radio tapes in carrels whenever he wishes. HSIC would contain numerous single or one large multiple automatic television tape deck, with multiple tape-reading heads, so that several students might view different parts of the tape at the same time. It would be capable of being operated from remote terminals like those in student carrels.[2]

The computers in such a center can be programed for tasks like the following: "calculate; solve problems; display, manipulate, and organize data; administer academic and psychological tests; and perform many other such cognitive aspects of medical and dental diagnosis and prognosis." They can help "in interpreting electrocardiograms and electroencephalograms; reading X-rays; relating laboratory findings to diagnosis; taking medical histories; evaluating differential diagnoses and prognoses; and determining, from hospital records, age, sex, race and other factors related to the incidence of disease."

> HSIC would connect the major time-sharing computer to small satellite computers in remote laboratories which could monitor variables in experiments and calculate data continuously. Such a satellite could deliver inputs to tissues. The character of these inputs could be determined by calculations based on outputs from the tissues received by the satellite instants before. An experimenter could, with an on-line computer, quickly calculate what range of some input variables elicits changes that interest him, and then limit inputs to that range. The computer could also prepare and display to patients stimulus materials for behavioral studies which could vary greatly in character and could be flexibly modified. As soon as output data were obtained, the computer could analyze them and put them into proper format for publication.[3]

---

[1] James G. Miller, "A Health Sciences Information Center and How a University Might Design Its Own," *EDUCOM*, I, No. 6 (September, 1966), 3–4.

[2] *Ibid.*, p. 2.

[3] *Ibid.*, p. 3.

Among the tasks a computer can do more efficiently are "keeping student records; carrying out personnel actions; maintaining personal records; purchasing equipment; controlling inventory; and budgeting. An on-line computer can keep these records continuously updated, accurate, and immediately accessible."

MEDLARS (Medical Literature Analysis and Retrieval System) is showing what can be done to speed up the job of reproducing medical literature. A linotype operator sets type at the rate of 45 words per minute. GRACE (Graphic Arts Composing Equipment) handles 3,600 words per minute which has decreased the time for getting the monthly *Index Medicus* printed from twenty-two days to five days. Yet, this is but a snail's pace by computer standards.

ERIC (Educational Research Information Center) has stored and made available thousands of research reports on filmed microcards that make available almost everything written about selected topics.

> The agency will begin computerizing its indexes, a file it anticipates will grow by 10,000 documents a year . . . the ERIC contents will be subject to rapid search and retrieval.
>
> Within a few years, then electronic information networks could make such materials instantly accessible to scholars across the nation. Should a professor wish to consult ERIC, he would need go no farther (perhaps in his own office) than to the end of the network—a cornucopian console called a terminal. He could address the ERIC data bank from a typewriter-like keyboard, talk by voice channel with specialists at ERIC-central, look at a document on a television screen, receive an immediate copy by long-distance xerography. He might neither know nor care how or from where his requests were filled, any more than a motorist necessarily fathoms the working of an internal combustion engine. Nor would he be aware that, at the same moment, the network was being put to an assortment of uses.
>
> Students would watch and listen to, and ask questions of, an authoritative lecturer at a distant campus, while medical classes witness an unusual operation at a far-off hospital. Librarians would consult by teletype a centrally stored union catalogue, information scientists exchange computer programs, and researchers in many disciplines swap hand-written notes.[5]

## Implications for Physical Education

What then are the implications of futuristic ideas and practices for physical education? There is currently a major development taking place in physical education that represents only a very small beginning but has enormous implications for our future as a field of study. Taking place most opportunely at the dawn of the cybernetic age, this development is to make physical education truly an academic field of study. Only two or three examples will illustrate the scope and direction of this movement.

First, there is the effort to develop standardized tests that can be given elementary and secondary students to determine their progress or status in physical education. The tests will be prepared for distribution by the Educational Testing Service at Princeton. Arrangements have already been made.

Secondly, there is the attempt to define the scope of physical education as an academic discipline or field of study. For example, the "Design" Conference initiated by the American Academy of Physical Education had this as its primary focus and recent meetings of the Academy have been devoted to this objective. The Big Ten physical education directors have spent their last three meetings concentrating on this question. A seed grant from CIC was obtained this past year to make preliminary plans for an enlarged and concerted effort to search out, describe, and possibly publish the basic academic content of physical education. Already the Big Ten meetings have seen innovative changes introduced in the doctoral programs in the Big Ten universities.

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[5] "Networks for Instant Information," *EDUCOM*, I, No. 7, (October, 1966), 3–4.

The age of specialization is upon us and some institutions are moving ahead to accept the challenge. Specialization already developing is in exercise physiology, biomechanics, history and philosophy of sports, motor learning and psychology of sports, administration. Undoubtedly there will be more. This influence will and should filter down to our undergraduate professional programs. The hierarchy of personnel alluded to earlier in this presentation is beginning to emerge in its infancy. The next step will be a complete and drastic revision of the undergraduate professional programs. No longer will we be training only general practitioners. Granted, the elementary and secondary teacher will continue to be our major products in the foreseeable future. But even their training must and will be changed. All will have a basic core of common preparation, but with an opportunity for preparation in depth in one or more specialties within our field. The master's programs must and will be changed from the general type of methods, curriculum, administration, principles courses to more specialized courses geared to the needs of the practitioners. Beyond the doctorate we will develop postdoctorate programs.

## NCPEAM'S Role

What should the NCPEAM be doing? Is our organization needed today? Or have we outlived our usefulness? There have been times when I have considered in my own mind whether or not we should continue as a professional organization. As of now, I am firmly convinced we do have a role, a most responsible one, to play. I do believe, however, that we need to reorganize some aspects of our operation in order to do our job more effectively. One suggestion might be to expand the Executive Council by adding the chairmen-elect to it. This would help make for better continuity. Another might be to have each section form its own council to plan its activities. Such a group might include the past section chairman, section chairman, section chairman-elect, and section secretary. Time should be reserved for each of these groups to meet at our national meetings in order to plan the succeeding year's activity. These councils should also do some long-range planning with each section working on a long-range project or two of a research nature. Perhaps the research emphasis should permeate each section. Certainly an obvious recommendation is the establishment of a president's committee on educational technology. The function of such a committee would be to search out information and keep our members posted on the latest developments.

At this juncture, I feel some comments are necessary about our present intramural section. One problem plaguing us all is the relationship and status of intramurals in the NCPEAM. It was at the 1929 meeting that members of the Society of Directors of Physical Education in Colleges voted to advise the intramural directors that they would be welcome as members in the Society. Some people now would prefer to cut them off. I think we need to keep the intramural people with us. Even though there are trends on some campuses to tear intramurals away from our field, the ties between us are still strong. In cases where we have lost intramurals, we have nobody to blame but ourselves. Intramurals in many places, even today, take a back seat to the professional and basic programs. We must in our own institutions make them full and equal partners. This means basically an identifiable intramural faculty and budget. It means that the physical education directors and deans must insist that their intramural faculty participate in the meetings of NCPEAM. It means that the intramural people must provide energetic leadership within our Association.

## Conclusion

As we look ahead into the future, we should not become overly concerned about the past and reluctant to leave behind the "good old days." The following quote from Alice Mary Hilton speaks to this point in a most telling way.

> Let it be understood that I have no patience with and do not intend to join the deplorably increasing number of intellectuals and pseudo-intellectuals who pride themselves in their "liberal" education and use it, sitting in their air-conditioned houses, daintily to shudder at the "crudeness" of technology and the "coldness" of science. Their hearts bleed profusely for humanity, for man's inhumanity to man, and particularly, for man's suffering at the hand of the machine. They are eager to find the lost paradise that has never existed and to restore the *status-quo-that-never-was*. They prattle rather incoherently of the virtues of a past age when human beings were free and could live "natural" lives. They bitterly forget that the "natural" cycle means rising at four o'clock in the morning on long, hot summer days, retiring at four o'clock in the afternoon on bitter cold winter eves; that it means that there is no light at all after the sun goes down, because few can afford to light a candle even on holy days."

In the history of American education, our system has concentrated its efforts upon preserving our cultural heritage and passing it on to succeeding generations. Too often in the past, our schools have been the conservers while the publics have been the innovators. In the future, the schools will be forced into a far more active innovative role. This is how I see the primary role of the NCPEAM. As a comparatively small and cohesive group of college physical educators we are well equipped to play an innovative leadership role in our profession. We should be in the forefront pointing the way. As a profession we should not be entering the future by the side door or be dragged in the front door as an afterthought. We should be doing our part to make a bold front-door entrance into the fantastic era ahead. I think the NCPEAM can contribute immeasurably to our profession by playing this kind of a leadership role. We have the qualified people who have the ability, interest, and professional know-how to do this task. With your imagination, dedication, zeal, and hard work, we can, we must, we will succeed.

In closing, I would like to refer to some remarks of O. Meredith Wilson in his keynote address at the recent annual meeting of the American Council on Education. He emphasized two propositions that lie at the heart of the educational enterprise.

> 1. Each new generation of men begins with a long headstart over any of its predecessors. Today's man takes for granted, as he uses them, a host of very sophisticated tools and institutions, and he accepts casually the boon of a rich artistic inheritance laid up in store for him by several millenia of painters, composers, authors, historians, and philosophers. . . ; weak or strong, beautiful or appalling, the late twentieth century civilization is compounded from corporate structures, technical skills, scientific knowledge, and artistic treasures so rich as to make unquestioned the long headstart with which tomorrow's . . . students can begin.
>
> 2. However rich the cultural heritage may be, each new child must start from the beginning—an exciting, lovable, vulnerable, innocent and uniformed, helpless bundle of biochemistry. And each must make the full journey from complete ignorance to knowledge. For him as an individual, the richness of our culture may mean that it is more promising, more exciting, more worthwhile to make the journey from ignorance to knowledge. But it also means that he has farther to travel. . . . We have improved the speed, the comfort and the security on almost every other road. But on the road from ignorance to knowledge we have little more help to offer than was available after man first mastered the art of writing. We have extended the length of the education road, increased the time required for the journey, perhaps enriched the scenery available on the way, but each new child of the twentieth century sets out to make the trip psychologically as alone, and technically as ill equipped as was Alexander, son of Phillip, and we provide him as guides, teachers no better equipped with the technical mastery of the art of teaching than was Aristotle.

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Hilton, *op.cit.*, pp. 13–14.

O. Meredith Wilson, "Teach Me and I Will Hold My Tongue," Keynote Address, Annual Meeting, American Council on Education, October 13, 1966.

For myself, I fully believe that Wilson's assessment of the art of teaching is the one area of education in which the cybernetic age that we are just beginning will force and assist in dramatic changes. Herein lies our opportunity. If we have the wisdom, foresight, courage, and willingness to take advantage of this challenge, then without question those who follow us will see a better tomorrow.

# Presentation of the Academy Citation for Quality of Publication to the National College Physical Education Association for Men[1]

**ELWOOD CRAIG DAVIS**
San Fernando Valley State College

Membership in the National College Physical Education Association for Men has been studded with valuable experiences for me. The two-way traffic of exchanging viewpoints in meetings has been rewarding and challenging. The condensed reports of the committees, orally presented before the proceedings come to our doors, frequently have added to my modest store of information. And, being able to talk directly with the committee chairmen has helped push a fellow out of the snug harbor of his specialty.

I began coming to these annual meetings thirty-eight years ago. Many is the time in the old days we boasted of far less than a hundred in over-all attendance. Is it any wonder, then, that the renewing of friendships is one of the most appreciated advantages of belonging to this Association?

But another kind of experience opens the gate for my subsequent remarks. This organization provided a great many chances for me to learn and to work in this profession. It also gave leadership and encouragement that supported one's striving to make a worthy professional contribution.

Recently, this group gave me a chance to work with Dr. Donna Mae Miller, Dr. Fred Roby, and others on the *Quest* project. Later, the association lived up to its time-honored reputation and joined with NAPECW in financing and otherwise supporting the *Quest* publication.

There is a bit to be added here. It made all the difference to us during our efforts toward the achievement of one goal: to turn out a quality product. This added bit that proved so valuable was that this organization gave us complete freedom, following that old axiom of the publishing game, "quality can be judged by, but it cannot be legislated by a committee."

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[1] NCPEAM member and former editor of *Quest*, Elwood C. Davis was presented a citation by the American Academy of Physical Education for his part in the publication of this journal. Dr. Davis, in turn, presented this citation to the NCPEAM for inclusion in the historical records of the Association. The repository for all NCPEAM records is the College of Physical Education Library of the University of Illinois.

Then came the recognition by the American Academy of Physical Education as we closed out our part in the beginning years of *Quest*.

Last year, NAPECW evidenced an interest in the Academy Citation given to Dr. Donna Mae Miller.

It is understandable, with my sense of debt to NCPEAM, that I would want the citation given to me to become a part of this group's archives, if it would care to have this recognition by the academy.

With the help of Dr. Fred Roby and Dr. Art Weston suitable steps were taken. President Rich Donnelly brought negotiations to this final moment.

This honor which is about to be mine does not come without a sense of personal loss. Perhaps it is this which makes this moment so personally valued.

President Donnelly, members of the executive council, and members of this association, it is with pride that this academy citation for quality of production is passed on to you as a symbol of this organization's assistance to the *individual*, and its interest and work in the broader arena of professional service.

## HISTORY OF SPORT

# Oral History—New Horizon for Physical Education and Sport Historians[1]

**STRATTON F. CALDWELL**
San Fernando Valley State College

> Oral History, in spite of its recent and unprecedented popularity, is a subject on which American historians are astonishingly uninformed. (D. C. Swain)

Man throughout the ages has attempted to chronicle and portray in written records phenomena, institutions, and individuals altering, moving, and shaping the course of human experience. The interpretations made and meanings derived therefrom have varied in accord with what the narrator perceived and transcribed for posterity. The recording of past and present occurrences, the prediction of what may be ahead based upon understanding of the past, and the search for knowledge, meaning, and understanding are woven into the fabric of that which has been identified as history.

As the historian investigates and analyzes past and present in order to identify threads that may provide insight into the future, he seeks to discover meaning and understanding, and attempts to reveal the truth. The importance of examining contemporary individual action in the search for truth has been emphasized by Page Smith in his treatise *The Historian and History:*

> Individuals in history achieve authenticity through their actions, and historians cannot arbitrarily deprive these lives of their meanings by judgments imposed long after the event. That we should ever have accepted any convention which held the contrary is monstrous.

A limited, yet increasing amount of research investigating the history of sport and physical education has been focused upon the identification and examination of the ideas and actions of individuals who, presumably, have influenced the course of development of nineteenth and twentieth century sport and physical education. Don A. Veller, in a doctoral study of noteworthy people in health, physical education, and recreation, indicated that insufficient historical emphasis has been placed upon the contribution of contemporaries because of the scarcity of available information. D. B. Van Dalen, in an article written in 1959, pointed out that great leaders are passing from the scene before a record is made of their thoughts, beliefs, and actions.

An invitation to conduct research of this nature, dealing with sport and physical education, was tendered by historian Thomas Woody in 1947 when he stated that "institutions, movements, men and women associated with the development of play and physical education, are waiting for an historic interview."

One kind of "historic interview" in twentieth century America has been identified as a component of oral history. This term was originated by Allan Nevins, DeWitt Clinton Professor

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[1] A bibliography may be obtained from the author upon request.

Emeritus of American History at Columbia University in 1948. He developed and inaugurated a systematized program for conservation of human experience and knowledge through tape recorded interviews, transcribed into written manuscripts and made available for interested scholars as primary source materials for study.

The concept of oral history has been identified by Nevins at varying times to mean "history in the deep freeze," "historical research among the living," and "a new method of preserving materials for history, and a very valuable one, rather than a new mode of writing it and interpreting it."

Richard Means has defined oral methodology in historical research within the context of data collection and use through the media of personal interviews, Vaughn Bornet as verbal recollection recorded and retained in transcribed form, and Charles Morrisey as "an effort to fill gaps in written records."

Oral history has also been identified with such varied processes as the tape recording of speeches, forums, lectures, symposia, etc.; note taking during an interview; recorded interviews conducted solely for personal research with source materials remaining in the researcher's personal possession; recordings used in the theater for stage effects, preservation of live performances, and acting cues; field recordings of anthropologists and ethnomusicologists; the teaching of drama, speech, and foreign languages; and answering services utilizing the value of the tape recorder for business purposes.

Gould Colman, former director of the Cornell University program in oral history, pointed out in a recent article that the term oral history (a) has been subject to confusion and misinterpretation as originally developed by Allan Nevins, (b) is really not "oral" or "history," and (c) should be understood, accepted, and utilized according to its generic meaning. He feels that the typed manuscript derived from the tape recorded interview is not to be confused with history, but merely exists as primary source material for some interested scholar. In reference to the term oral history, Colman suggests:

> Nonetheless, in spite of its inadequacies, the term has become generic. Since oral history is now part of our language it seems advisable to make its meaning clear by limiting its application to cases in which the taped record is transcribed and made available to other researchers.

Elizabeth Rumics, former transcriber for the Oral History Research Office at Columbia University, has also helped to clarify the meaning of oral history by suggesting that oral history not be identified with such phenomena as tape recorded lectures, forums, and addresses:

> . . . the former creates new sources through the more spontaneous, personal, multitopical, extended narrative, while the latter utilizes sources in a more formal mode for a specific occasion.

The need for more systematic methodology and organized program efforts designed to capture and retain "living history" has become clarified in this age of "communication revolution." Oral historians Louis Starr, Doyce Nunis, and Elizabeth Dixon all view rather pessimistically the development and availability of personal memoirs and documents in a period characterized by computer technology and verbal communication. They point out that the disappearance of extensive, intimate, revealing letters, personal diaries, and travel journals pose real problems. Doyce Nunis gloomily predicts that in the future "we shall have naught but telephone bills; travel journals on the back of ticket envelopes and the stubs of airplane (or rocket) tickets!"

Oral history, thus, can play an important role for man by extending and enriching the reservoir of human knowledge about the immediate past and present for scholars of the future. Oral history projects not only fill historical "holes" in extant records, but actually create new possibilities for historical research as documents come into existence for the first time. New documents are the joint creations of the probing historian-interviewer and memoirist; they reflect the historian's ability to question searchingly and probe in depth and breadth for new meanings and relationships within the memoirist's past experience, as well as the ability of the memoirist to speak freely and frankly for posterity.

Bruce Catton, a member of the Oral History Endowment Committee at Columbia University, points out that as new primary source materials for historical research studies are being created the significance of such endeavors has not been recognized and supported financially by large foundations which invest enormous sums of money in educational enterprises.

The development of oral history collections in the United States from the modest beginning at Columbia University in 1948 through 1965 is evident in the recent publication *Oral History in the United States*, a result of the first nationwide survey of oral history materials conducted by the Oral History Research Office of Columbia University. The survey indicates that there are over seventy-five collections of materials in existence in thirty-seven states, and the original oral history collection at Columbia University has increased from twenty-one persons interviewed and 3,144 pages of manuscript completed in 1948–1949 to 1,529 completed interviews and 224,045 pages of manuscript amassed in 1964–1965.

The scarcity of articles and publicity relating to oral history projects in sport and physical education indicates in all probability that the tremendous development of resource materials in other fields is not occurring within these areas. The author of this paper is in the process of attempting to determine the extent of existing oral history projects encompassing sport, play, and physical education materials and the emphasis, focus, and support for such endeavors. Available information indicates that extant oral history materials span an incredible multitude of topics ranging from emphasis upon special projects to aspects of international, national, district, state, local, or regional history, biography, and autobiography—or combinations of any of these.

An example of the diversity of topics encompassed in an oral history program in the field of sport and physical education is cited in a recent article in the *Journal of Health, Physical Education, Recreation*, entitled "Speaking to the Future" by Mariana Trekell, director of the Oral History Research Office in the Graduate Department of Physical Education at the University of Illinois. Dr. Trekell indicates that the focus of the Illinois oral history program will be upon fourteen persistent problems relating to sport and physical education. The problem areas were identified as values or aims, political influence, nationalistic influence, economic influence, religious influence, instructional methodology, professional preparation, bodily health, women's role, dance, leisure, amateur, semiprofessional, and professional sport and progress.

Oral history projects vary in terms of procedures and techniques utilized within the program. Generally, selected individuals or groups are interviewed, a tape recording is made of the reminiscences, and the tape is transcribed into a typewritten manuscript.

The concept of the interview has been much discussed by oral historians and they generally agree that within the interview situation resides the heart and potential success of oral history projects. The historian-interviewer should be thoroughly familiar with relevant primary and secondary source materials prior to each interview, so that he can question in detail for depth and breadth, attempting to extract as much factual data from the memoirist as possible. Actually acquiring personal papers, diaries, correspondence, etc. of the respondent prior to the interview, if the memoirist will do so, will enable the historian-interviewer to function more effectively and efficiently. Preparing a chronological or topical outline or narrative beforehand may help to "jog" a memory into recall when unstructured rambling will elicit no such response.

The environment for interviews should be comfortable, allowing the respondent to feel at ease, free from interruptions and appointment demands as well as threat, hostility, boredom, or any adverse value judgments rendered explicit by an unperceptive interviewer. An atmosphere conducive to candor and honesty appears to be essential for interviewing success.

There are various ideas about formal training of interviewers for oral history projects. Elizabeth Dixon of the University of California at Los Angeles oral history program stresses empathy for people in interviewing, rejecting a "technique" or strict journalistic method per se, and Elizabeth Mason, acting director of the Oral History Research Office at Columbia University, states that "we have never put together a manual of interviewing do's and don'ts, preferring to train the interviewers on the job as we go along." Colman, on the other hand, feels a formal training program could be beneficial utilizing the extensive interviewing experience and knowledge of individuals in the social sciences.

It has been suggested that supporting documents be gathered from the memoirist in order to check the reliability and validity of human memory and extend the dimensions of document utility as well as securing the questions asked by historian-interviewers and bibliographies of primary and secondary source materials used in preparation for interviews.

There appears to be merit in seeking out for interview purposes those individuals who have been lesser actors or observers in the great dramas of history, rather than those principal players who have published extensively and whose ideas and actions are well documented and known. The most judicious time to interview players would seem to be while the event is occurring or as soon after as possible in order to keep the tenuousness of human memory under control.

The actual taping in the field is done with a Wollensak T-1500 portable tape recorder by University of California at Los Angeles historian-interviewers; another recorder with a foot control allowing starting, stopping, and reversing action [Tanberg or Uher tape recorders] is used for transcription purposes. There are approximately thirty pages of transcript for each hour of recorded tape, and an experienced typist can transcribe about five pages per hour or one hour of recorded tape in six working hours, while a skilled editor will cover approximately ten pages of transcript per hour.

The typewritten transcript is generally an exact replication of what is on the tape. A philosophy of emending or editing voiced by Colman who states that "the transcriber shall make the transcript reflect what is on the tape" is reinforced by Dixon:

> We retain the interviewee's syntax as much as possible—even the swearing and bad grammar, for how else is his portrait to be true? We edit for continuity, either topological or chronical; for proper spelling; for punctuation; for paraphrasing; and for clarity—ambiguous statements, or those moments when he might say "this long" or "this high." We simply bracket the correct figure.

After the editing is completed the transcript is given to the respondent for approval or correction; changes are then incorporated into the transcript and it is generally given a title, separated into chapters, indexed for proper names and/or subjects or areas mentioned, bound in some fashion, catalogued in the library, and deposited and used according to the wishes of the memoirist.

The respondent essentially controls the use and availability of his resource materials in a particular collection. The University of California at Los Angeles oral history program uses two contractual forms, allowing the memoirist publication rights over a stipulated length of time with reimbursement going to the university for operational expenses incurred during the project or giving the university publication privileges with royalties going to the respondent. Regardless of the contractual agreement, the written consent of the university librarian must be obtained before any material can be quoted by an individual doing research.

Four copies of each individual's memoirs are made at the University of California at Los Angeles, with the original copy going to the Department of Special Collections in the library, the second to the Bancroft Library at the University of California at Berkeley, the third to the respondent, and the fourth being retained by the Oral History Office at the University of California at Los Angeles.

In the Oral History Research Office in the Graduate Department of Physical Education at the University of Illinois, a "restriction form" is given to the memoirist, allowing each individual to decide when the primary source material collected will be open and available for scholarly study.

At Columbia University the material remains the property of the memoirist, with the university acting as its custodian and trustee. Completed memoirs are deposited in the special collections department of the library and no interlibrary loans or photoreproduction is permitted. Memoirs at Columbia University are classified into four categories: (1) open to credentialed scholars, (2) open for scholarly use but permission to quote or cite must be obtained, (3) written permission is required from the memoirist, and (4) *closed*, as memoirs are unavailable at the time.

Because of expense and space limitations, as well as some doubt about the worth and utility of the actual tape recorded memoir itself for research purposes, only a small portion of five or ten minutes duration of the original tape is retained in order to preserve vocal delivery, emphasis, and quality of such "living history."

The problems confronting newly organized oral history projects and those rather firmly established have been detailed at some length by various oral historians. The funding of such projects seems to appear as the problem of greatest magnitude. Allan Nevins indicates that "even a sternly economical but efficient office" costs forty thousand dollars a year at Columbia University and costs are on the increase. The program at Columbia, however, is the oldest, largest, and most extensive in the United States.

The scope of an oral history project will, in all probability, be determined largely by the ability of such a project to secure money for its inception and continuation over the years. Factors to be taken into account in such a venture would include space for location and storage of an oral history project, administrative services and salary, clerical salaries, and equipment and supplies. Gould Colman has suggested that the three best sources for funding the essential "operational requirements" of an oral history project would be—

> . . . the library; a special endowment fund such as the one which Columbia's Oral History Research Office is currently seeking; and the budgets of colleges whose faculty use the technique.

Perhaps in the near future foundations granting large sums of money for research purposes or governmental agencies at some level will become interested enough in this kind of long range venture to seriously consider supporting such projects.

There is concern at present about the great proliferation of oral history projects and the fact that so much historical source material may be amassed that historians will be overwhelmed and unable to deal with it meaningfully. The fact, also, that many contemporary historians are either ignorant of the wealth of resource material available or choose not to utilize it remains a consideration of import. Donald Swain feels that "specialists in the recent period of American history, in particular, must learn how to utilize the source materials already available through the various oral history projects."

The inability to gain access to much contemporary data of historical value is a fact practicing historians are well aware of. Documents classified for security reasons are simply unavailable to scholars, and may be for an indeterminable length of time. Since the *authors* of such documents are not unavailable, however, the oral history method appears to be of great potential value in matters of concern to many.

The willingness or reluctance of individuals to speak candidly about personal or political matters is another problem of special relevance in today's headlines. The current "Manchester controversy" involving a conflict of interests and rights between Mrs. Jacqueline Kennedy and author William Manchester over the proposed publication of his book *The Death of a President* illustrates the significance of tape recorded interviews and the question of rights and responsibilities inherent in the use of such material.

Lewis Atherton has identified another concern about oral history collections in an article entitled "Western Historical Manuscripts Collection—A Case Study of a Collecting Program." Atherton submits that decentralization of manuscripts and collections in repositories will strengthen historical scholarship inasmuch as dissemination of materials will make it less expensive for scholars to travel to distant locations in order to pursue historical research.

An attempt has been made recently by oral historians throughout the country to examine the problems, meanings, uses, techniques, standards, goals, and future directions of oral history projects in the United States. The First National Colloquium on Oral History in the United States, sponsored by the oral history program of the University of California at Los Angeles library, was held at Lake Arrowhead, California, from September 25 to September 28, 1966. The purpose of the colloquium was explained in the program in the following manner:

> This will be a working colloquium designed to better define the functions and objective of oral history and to establish a permanent and productive relationship among those who are responsible for its development throughout the United States.

As a result of the colloquium on oral history, a steering committee was established for the formation of a national organization in this field. Another result of the colloquium will be a publication made available in the near future from the Oral History Program Office at the University of California at Los Angeles devoted to the four day colloquium.

In the field of sport and physical education, recent NCPEAM annual proceedings have highlighted the words of a historian who felt oral history to be a particularly suitable endeavor relative to sport history and to the need for training sport historians, proposing an undergraduate curriculum for preparation of sport historians, developing a graduate program emphasizing history of sport, and emphasizing the initiation and implementation of a program for sport historians. Recent articles in the *Research Quarterly*, the *Journal of Health, Physical Education and Recreation*, and the *Physical Educator*, as well as personal correspondence with the director of a university graduate program in physical education in which seven members of the faculty have expressed interest in sport and physical education history, indicate a growing awareness of and interest in oral history projects.

In the September 1966 issue of the *Journal of Health, Physical Education, Recreation*, AAHPER historian Bruce Bennett and AAHPER archivist Mabel Lee have presented guidelines for the collection and maintenance of archival materials and suggestions for the revitilization of the functions of state, district, and division historians. Archival emphasis, logically, is upon acquisition of written documents; but couldn't this also be a time for oral history projects to fill the gaps in our historical knowledge of sport and physical education and a time for creation of new historical source materials? The working committees (coordinating archives committees) suggested in the article could function at the national, district, and state level to stimulate historical research, the acquisition of historical and archival materials, and the creation of new source materials.

Change, progress, and innovation in oral history projects throughout the United States suggest some tentative ideas worthy of examination by those persons particularly interested in contemporary historical developments in sport and physical education:

1. The establishment of some form of working relationship among those individuals concerned with the development of oral history projects in sport and physical education would be desirable in order to facilitate the exchange of project ideas, avoid project duplication and overlapping, and stimulate additional historical research and publication.

2. The development of a national organization of oral historians—a possible outcome of the First National Colloquium on Oral History—might provide a basis for identification of physical education and sport oral historians with an established national body.

3. Now appears to be the time when systematic, clearly identified oral history projects should be investigated and initiated in order to record the ideas and actions of pioneer contributors, fast disappearing from the American scene who are still available for a "historic interview."

4. In time, perhaps, the publication of a guide dealing with sport and physical education materials ("Guide to Archives and Manuscripts in the United States; National Union Catalog of Manuscript Collection") including archival collections, manuscripts, and oral history project memoirs could come to fruition.

5. In the preface to the first edition of the *Gateway to History*, Allan Nevins called for the establishment of a popular, monthly historical magazine "written for the multitude and not the learned few, and full of articles relating the past to the present." This dream was ultimately fulfilled with the publication of *American Heritage*.

In sport and physical education history is there not interest and room enough for another publication that could satisfy both the multitude and learned few? With the focus of the *Journal of Health, Physical Education, Recreation* essentially upon the clinician, the *Research Quarterly* upon experimental studies, and *Quest* upon a multitude of topics, is there not sufficient research and scholarly interest, support, and justification for such an endeavor? Oral history projects could, in part, certainly stimulate and create new interest in historical research as well as the development of new source materials for research purposes.

6. The recognition of and emphasis upon oral history research in the development and training of physical education and sport historians particularly concerned with contemporary history would seem to be most important. Saul Benison, in an article entitled "Reflections on Oral History," suggests that a major contribution of oral history research will come when history departments utilize this methodology to train historians.

Saul Benison envisions a program in which students prepare primary and secondary source materials for interviews conducted by the instructor. The students then read parts of the transcribed interview, listen to the taped record and critically evaluate the interviewer's methodology and materials secured from the students' research endeavors. If possible, the memoirist is brought to the class for direct requestioning and reexamination by the students.

7. In oral history projects following the belief that the typed manuscript, not an original reel of tape, is the end product to be utilized in research efforts, a limited portion of the original tape will usually be retained to capture the feel and quality of the memoirist's voice. Perhaps videotaped recordings of an individual's physical appearance, gross personality manifestations, and speaking characteristics could be imprisoned on tape for future genera-

tions to see as well as hear. This might be a most fruitful way of acquainting those of the present with the "living past."

8. The use of microcard or microfilm reproduction of oral history memoirs might facilitate the dissemination and use of resource materials, cost allowing.

In conclusion, let me cite from an interesting book entitled *The Future as History*, in which the author, Robert Heilbroner, talks about the human condition and inertia:

> Because we live in a time of great change, and because our philosophy of optimism makes us expectant of and receptive to change, we may overlook a deeply important aspect of human development. . . . [that] people tend to repeat and continue their ways of life as long as it is possible for them to do so.

# A History of Physical Education in the YMCA

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Physical education in the YMCA when viewed in its proper historical perspective is marked as the most influential variant in the history of the American YMCA. Probably no other feature so largely affected its public image, expectancy, and relationship with youth.

During its early formative years (1851–1870) the American YMCA was a somewhat amorphous movement groping about for a pattern suited to the unique social and religious climate of this era. Early YMCA efforts to attract young men into Association[1] work through primarily evangelistic approaches were only partially successful. Specific adaptations were made to meet certain social, spiritual, and intellectual needs of young men alone and adrift in large cities away from the stabilizing influences of the home. Physical education, when first introduced into YMCA work, was not always accepted as a legitimate function of the Association. Once existing prejudices against physical education had been overcome it became one of the most popular and distinctive features of YMCA work. As a Christian agency, the YMCA was one of the first social agencies of its kind to grasp the significance of the unique role that physical education might play in achieving institutional objectives. Many factors have influenced the growth and development of physical education in the United States. Among them the YMCA, because of its interest and concern for the health needs of young men, has contributed greatly to the development of the ideals, principles, and practices which undergird current programs in health education and physical education.

## Purpose of Study

The purposes of this study were (1) to trace the historical development of YMCA physical education in the United States, (2) to interpret and evaluate the factors which affected this development, and (3) to determine the unique functions of YMCA physical education and its major contributions to American life.

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[1] A federation of YMCA's.

This study was based primarily upon source materials located in the YMCA historical library on the campus of Whittier College, including the minutes, proceedings, yearbooks, and official publications of the YMCA, supplemented by conferences and correspondence with men who have been associated with the movement for many years.

## Summary of Findings

The YMCA has its origin in 1844 in London, where a group of young men banded together for a prayer meeting under the direction of George Williams. It spread into England, Canada, and the United States as an extension of the Protestant Reformation. As early as 1860 the YMCA passed a resolution which stated that "the establishment of gymnasiums is desirable and expedient, provided they be in all cases under the exclusive control of such associations as adopt the feature."

In 1869 "well-appointed" gymnasiums were dedicated by the Washington, D.C., San Francisco, and New York associations. Early programs in physical education consisted primarily of heavy weight-lifting and dangerous acrobatic stunts led by self-appointed directors who came from private gymnasiums and circus troupes residing in the area. The official boards of the YMCA sensed that these men would eventually subvert the YMCA from achieving its evangelistic purposes. For this reason, many association leaders became doubtful as to the propriety of sponsoring a program that "pandered" only to the needs of the body, while such men as Robert McBurney, secretary of the Fourth Avenue and Twenty-third Street Association in New York, and Robert J. Roberts of the Boston Association defended physical work as an integral aspect of the established program of the YMCA.

During the early seventies Roberts, a young model for Rimmer's art school and a weightlifter of considerable fame, volunteered his services as the "gymnasium superintendent" of the Boston Association. Through his splendid example, Roberts did much to Christianize the work of the gymnasium. His health talks and simple dumbbell drills became the guide for YMCA physical directors for forty years.

Luther Halsey Gulick, the most dynamic and controversial figure to enter YMCA physical work, established at Springfield College a training program for physical directors which ultimately had far-reaching effects upon other teacher training institutions. Gulick led in matters of athletic reform as he constantly sought to preserve the American ideal of amateur sports. He was one of the prime forces in the development of the playground and recreation movement in the United States. His ideation of the all-round man led him to devise the mind-body-spirit triangle, which was later adopted by the YMCA as symbolic of its program.

The major contributions of the YMCA to the general field of physical education fall into the following categories:

1. *Athletics.* (a) Was responsible for introducing basketball, invented by James Naismith of Springfield College in 1891; volleyball, invented by William Morgan of the Mt. Holyoke YMCA in Massachusetts in 1895; and team ball, as well as numerous other games of lesser importance. (b) Let in matters of athletic reform and gave wise direction in the development of codes of ethics, statements of principles, and the establishment of sound practices in the field of athletics.

2. *Aquatics.* (a) Led in the establishment of swimming pools as an integral phase of physical education. (b) Introduced "mass methods" of teaching swimming. (c) Established programs of life saving and water safety instructions. (d) Contributed to development and perfection of swimming pool operations, particularly with relation to filtration, chlorination, and bacteriological testing. (e) Conducted "Learn To Swim Campaigns" for the general public. (f) Promoted aquatic institutes.

3. *Health Education.* (a) Let in the dissemination of health information through lectures and pamphlets on exercise, bathing, rest, relaxation, and posture work. (b) Established a rational program of simple exercise suited to the needs of the average performer. (c) Taught first aid through "surgical lectures." (d) Led in the development of an enlightened program in the field of social hygiene primarily directed toward the needs of adolescent boys and young men in the armed forces.

4. *Philosophy.* (a) Gave early direction in the development of an American system of physical education. (b) Assisted in the development of the principles and procedures which have been validated by contemporary practices.

5. *Recreation.* (a) Organized rural playdays and sponsored special community events. (b) Organized athletic leagues in industrial areas. (c) Led in the camping movement by establishing rambling clubs, overnight excursions, picnics, and organized camping. (d) Promoted extention work in recreation for personnel of railroads, churches, and county jails. (e) Through its program of sports and games the YMCA secretary became one of the chief emissaries of the American way of life in foreign countries.

## Conclusions and Recommendations

The YMCA achieved its unique status as a vital social force in American life through the strength of its Christian emphasis, its democratic ideals, its willingness to pioneer in unexplored areas of social service, and the dynamics of its physical education program. If the YMCA is to continue exerting influence in the years ahead, it must maintain a strong program of physical education, maintain its democratic ideals and its emphasis upon the Christian way of life, and continually seek new fields of human service.

# Johann C. F. Guts Muths' Contributions to Athletics

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Although the name Johann Christoph Friedrich Guts Muths will have a familiar ring for most physical educators, it might be appropriate to review briefly some biographical notes. Guts Muths (1759–1839) lived in Germany during a period of history when man emerged from practical servitude to the realization of his rights as an individual. When the philosophies of liberty, brotherhood, and equality finally had become reality in France and the United States, his country still lived under the yoke of feudalism. Spurred on by the ideals of the American and French revolutions, Guts Muths sought for means to elevate his people from their physical and mental apathy. His main target became the refinement of his compatriots, whom he held responsible for the soft, decadent way of life of the upper classes and the misery of the living conditions of the poorer segment of the population.

In order to re-establish individual pride and responsibility, Guts Muths introduced his natural method which in essence strove for a natural development of the individual as an entity or totality. Deploring the over-emphasis on intellectual development, Guts Muths pressed for ample physical experiences. Although known as the great-grandfather of physical education and as the formulator of the first methodical approach to purposely planned physical education, Guts Muths and his ideology have received very little attention in the professional literature of our country. This is not only regrettable but also surprising, since an analysis of his original methodology indicates many similar features which distinguish our current physical education programs.

The intent of this presentation, as the title indicates, is to limit the discussion of Guts Muths' activities to those which contributed to athletics. However, because Guts Muths, one of the early proponents of total and harmonious education, sought to integrate the various disciplines rather than to separate them, it will be necessary to deviate occasionally from this limiting topic. Guts Muths' philosophy of natural and harmonious education required that all things taught should have a useful purpose in daily existence. Consequently all natural activities of daily life were worthwhile to teach and should, therefore, be incorporated in the curriculum. It follows naturally then that the physical education program must contain those activities that might be defined as athletics. This presentation is not concerned with the merits or shortcomings of athletics, nor with philosophies opposing or promoting athletics. Therefore, without any motive other than to facilitate this discussion, the term athletics has been applied to describe that part of the physical education program in which the competitive element is emphasized.

It must strike most physical educators familiar with the biography of Guts Muths as extraordinary that a man, who as a child had been denied natural play activities with his peers and whose sole physical endeavors had consisted of climbing the roofs of the buildings on his father's property, chose as his main goal in life the reinstatement and safeguarding of man's physical development in the educational process. That this did not result in a purely theoretical dedication on his part, as so often is the case, is evidenced by various descriptions which tell of the active part he took in the physical activities of his pupils. In order to be able to do so, he personally learned those activities he thought beneficial for youth but which he had not mastered at the time. So, for instance, valuing its wholesome activity, he learned to ice skate in later life. Convinced of the great importance which swimming had for healthful and practical living, he enrolled in a private course to master what was at that time still frowned upon as an almost immoral pastime. Intrigued by the practical and joyous possibilities of the snow activities practiced in the Scandinavian countries, he became the first to practice and introduce skiing in Central Europe.

When beginning his career as teacher at the Philanthropinum in Schnepfenthal, he inherited from his predecessor a curriculum which consisted of the so-called Dessauer or German pentathlon, a combination of the old "knightly exercises" and some "Greek gymnastics." From this starting point Guts Muths developed the practical applications of his philosophy and theories of method on which he reported later in a series of publications. His knowledge of the classics, his ability to handle such modern languages as Italian and English, and his up-to-dateness with the findings of the medical world of his day enabled him to develop the first methodical approach to purposely planned physical education. Guts Muths the philanthropist was very much distressed over the artificiality of his society and therefore introduced in his physical education curriculum those activities which he felt would restore to man his natural place in life. This desire for naturalness expressed itself, besides in the selection of activities, also in the choice of facilities and manner of performance. As practice place he chose the out-of-doors, adapting his choice of activity to the weather conditions, and, although in our eyes the conduct of the class might have appeared formal, he left the execution of the activity very much to individual form and personal style. Reviewing some of the activities which made up his exercise material, we notice various forms of running, jumping, throwing, wrestling, climbing, balancing, lifting, carrying, pulling, bathing, swimming, and a large selection of games. Reflecting upon the nature of many of these activities, we should not be surprised that the obviously built-in characteristic "competition" soon was to become a strong educational tool in the hands of this eminent educator.

Another element that contributed to the competitive spirit which emanated from Guts Muths' program is the utilization of play and games. In his generic classification Guts Muths ranged these activities equally with the basic developmental activities. Although he had indicated clearly that games and play formed an inseparable part of his curriculum, circumstances prevented the inclusion of the games division in his first publication. Several years later it was published as a separate volume. It must be considered very unfortunate that this first approach to educational utilization of play and games could not be included in the *Gymnastik für die Jugend*, because as a result it took another century before play was to be accepted as an educational means.

The multifariousness of Guts Muths' creativeness might have been a deciding factor in the ready acceptance of his philosophy of physical education in Germany and abroad. Aside from his importance in physical education Guts Muths was also accepted as an authority in such other areas of education as geography and manual arts. For more than twenty years (1800–1820) he published an educational periodical, *Bibliothek für Pädagogik*, which, totaling fifty-three volumes, was considered the authoritative voice of education in Germany at that time. Moreover the boarding school at Schnepfenthal had an international student body and the bulletins published by the administration and the reports from parents and pupils helped to establish Guts Muths' fame. Beyond Germany's borders educators such as Young in Austria, Amoros in Spain and France, and Geuns in Holland adopted Guts Muths' method while in numerous other countries his books and methods were pirated. Leading figures in politics, the arts, and education sought his company and advice; among them were the poet Johann Wolfgang von Goethe and the later prominent physical educators Friedrich Jahn and Adolph Spiesz.

The competitive element in Guts Muths' method originally developed as a result of his conviction that physical education was a serious business which should be pursued methodically and rigorously to obtain maximal benefit. Accordingly he emphasized achievement and devised objective methods for measuring such achievement. Many of the tests in running and jumping utilized by Guts Muths are in one form or another still administered in our programs. Other tests such as hanging by both hands for endurance (the record was eight minutes), lifting for endurance with outstretched arms or with the help of a weight machine especially devised by Guts Muths might appear to us humorous or questionable. Guts Muths developed a system of record keeping which included all the vital data about the performer and the performance, even including information about the weather conditions at the time of the performance. In his own teaching, he administered tests at regular intervals and kept a record of the progressive improvement of each student. He believed that this procedure fostered competition with one's self as well as with others and he encouraged that competitive spirit by giving awards to serve as incentives for greater effort. These records later became a source of local pride and school spirit, particularly when Guts Muths in later publications challenged others to better them. For instance, after discussing the results of a swimming contest in Denmark, Guts Muths furnished the pool record of Schnepfenthal (approximately one and one-third mile in one hour and forty-five minutes by a fifteen-year-old boy) and issued the challenge to equal this mark. Well aware that his publications were read beyond

Germany's borders, this challenge must have been intended as an open invitation on an international level. The results of these evaluation processes encouraged Guts Muths to continue his search for means to improve the performances of his pupils. Indications are that no contemporary data were available in the area of field and track. Guts Muths, therefore, turned to the then known records of the classics. Accepting that no true comparison could be attained, he found solace in the fact that the ancient Greeks were more mature and wore less clothing at the time of their performance than his charges.

To increase the performance of his pupils and also in order to facilitate the administration of his tests, Guts Muths devised various kinds of equipment, among which were the high jump and pole vault standards. In the beginning, simplicity had been the chief feature in his requirement for facilities and had amounted to only few alterations and additions to the out-of-doors, his "gymnasium." During the years, however, the use of equipment became more fashionable although it did not compare with that designed by Jahn. Even though Guts Muths still preferred to utilize that which nature had to offer, descriptions of facilities and equipment became more detailed; requests for their standardization became more prevalent; and the schematic drawings of facilities, equipment, and technique grew in number. Guts Muths did not limit his attention to the refinement of facilities and equipment in order to improve performance. He was very much aware that increase of performance was not a result of material perfection alone but also depended on the improvement of technique and on personal dedication.

The effect of Guts Muths' practical observations and the results of the physical performance tests were noticeable in each new publication through the thoroughness and increase of detail in the presentation of teaching method and technique for the various events of field and track as well as for the contact sports and swimming. Concerned with the health and welfare of the participants, he provided for each event a series of safety rules which pertained to the conduct of the activity as well as to the construction of facility or equipment used. These safety rules included, besides organizational advice, suggestions for classification (according to height, weight, and ability), protective equipment, attire, and practical hints to prevent sudden changes of bodily temperature. In his discussion on methods Guts Muths advised that the teaching should go from easy to the more difficult performances to induce gradual improvement in proficiency and skill. He recommended starting at an easy level, such as jumping over a low obstacle, or increasing endurance by gradually enlarging the distance. He noted that observance of the axiom "progress from easy to difficult" also tended to decrease accidents and to prevent injuries. In his training rules for athletes he preached moderation and spoke out against the bad habits of smoking, drinking, and over-eating. Since to Guts Muths athletics was a means to combat the decadence of his day, a hardening device, he proposed that his athletes follow a schedule of sufficient sleep; simple foods, preferably raw vegetables; no spices; cold, nonalcoholic beverages; no smoking; bathing with cold water; light clothing; and an abundance of exercise in the open, regardless of weather conditions.

Although the physical hardening of the individual was an important factor in Guts Muths' athletic program it was by no means the final goal. Guts Muths asserted that physical exercise and play necessarily promoted the development of the mind because participation in either would hardly be possible without assessing the mental faculties. He credited play in particular with being a stimulator for thought and imagination, a designer and engineer for schemes and plots, and a creator of techniques and tactics. To him it seemed inconceivable that play could be an empty activity, void of any purpose, or that games could be a purely physical activity without mental participation and direction. He saw in play one of man's most precious assets, creativity, and emphasized that the value of play lay in the opportunity to express this creativity. Disenchanted with the softness of his contemporaries whose sedentary play activities he regarded as a source of moral decay, Guts Muths advanced the values of vigorous play. Although he objected strongly to the moralizing righteousness of his day, he firmly believed in the rectitude and uprightness of good morals. In his estimation, control over bodily functions would contribute to faith and self-confidence of the individual, which in turn would lead to a good moral attitude. Guts Muths expressed his conviction that the competitive element in athletics was an important factor in the development of ethical practices. The desire to win, defeat, surpass, or conquer in a contest, feat, or performance by fair and honest means according to accepted rules and regulations was credited with the upgrading of moral conduct. He consequently believed that the qualities thus gained would carry over in later life and would make for better adherence to law and order and acceptance of one's fellow man.

Living in a society where class distinctions were sharply marked Guts Muths envisioned a national unity without hemming class barriers. He regarded play and games as a social equalizer and noted that their practice in state supported schools and recreational facilities might promote common understanding and realization of the interdependency of all citizens. Implying that a well organized and consciously administered athletic program, supervised by qualified personnel would contribute greatly to the making of such society Guts Muths admonished:

> The young individual is polished like a rock in the stream. It is always better to have this happen sooner than later if only the stream is not polluted and muddy. Parents who educate their children in an insular way in the small circle of the home and keep them away from the rest of the children's world, your intentions are good but your plan for education has surely been calculated wrongly; you are in danger of having obstinate, insufferable, inexperienced and overly sensitive descendants.

How much importance Guts Muths attributed to the value of healthful competition may be shown by the fact that he suggested more than one hundred years before Coubertin that the Olympic Games be revived as "a means to guide the entire nation." In these revived Olympic Games he pictured the participation of young and old, men and women, who, each competing in their own division and on their own level, would vie in an honorable manner for victory, utilizing the integrated forces of their physical and mental faculties. Asserting that the nature of a nation's pastimes were reflections of its national character, Guts Muths pressed for physical play in order that it might serve as a prophylactic for the physical, mental, and moral welfare of the future generation.

Realizing that to ignore play in the school would not prevent children from seeking diversion and deploring that this might lead to undesired activities Guts Muths noted:

> Is it, therefore, not more intelligent to absorb . . . physical exercises and recreation into the system of education rather than to leave it to the caprice of youth? And set out proper limits to . . . [those activities which are] . . . not suitable for our youth at all . . . [and] . . . with which our youth wastes a large part of their best years. . . . I say this particularly in reference to adolescent youth. . . .

Later, under the pressures of the political development in his own country Guts Muths felt obliged to compromise, and joining the "physical fitness bandwagon" he published an adapted version of his *Gymnastik für die Jugend*. In retrospect it might be regarded unfortunate for the historical development of physical education that Spiesz, a *Turner* and follower of Jahn, chose this adapted edition to develop a formalistic program of physical education to be taught in the schools.

Guts Muths admired America for its individualism, ruggedness, and competitive spirit and held this young nation out to his countrymen as an example to follow. It is ironic that Guts

Muths's ideals never reached our shores untarnished. Our first acquaintance with Guts Muths was made through a plagiarized version of his first volume, *Gymnastik für die Jugend.* The term version has been utilized here purposely, since the unknown translator adapted the original treatise wherever it suited him through deletion, addition, and substitution in order to please his British readers. The American edition was a verbatim copy of this piracy. Our next contact with Guts Muths again was an indirect one and reached us through the formalized programs of the so-called *Turnen,* which never gained full support in our country. Brownell and Hagman's question as to what might have happened to American physical education if Guts Muths's program rather than Jahn's system had been introduced may be a moot one but it certainly might make for interesting speculation, particularly since the competitive element was already lodged so strongly in Guts Muths's approach to athletics.

# History of Sport Through the Media of Art

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The basic premise for this presentation is the belief that to be a liberally educated professional physical educator one ought to be acquainted with the outstanding works of art relevant to one's professional field. By works of art I mean sculpture, painting, architecture, music, literature, and minor arts and crafts—usually thought of as fine arts. I prefer the term "aesthetics" in place of the term "art," since it denotes the concept of beauty in addition to the concept of works of art. Under the category of sport I refer to the subject matter defined generally as athletics, games, contests, dance, sports, play, exercise, recreation, amusements, entertainments, diversions, and pastimes.

Such works of art which deal with the motif of sport constitute an identifiable body of unique historical data of a cultural nature which has great potential academic value to us as a profession. It adds a new dimension—aesthetics—and fills a great gap in our preparation of physical educators, since there has been a comparative lack of such cultural data in the curriculum. The study of works of art (aesthetics of sport) should provide some education of the emotional aspect of man; that is, education of the nonrational as well as the intellectual.

In support of the need for, and desirability of, educating our people in the aesthetics of sport, let us identify some of our problems:

1. Our profession is constantly charged with being nonacademic; there is a continual need to justify our status in higher education. We need to construct a better cultural image in order to improve our professional status.
2. As population increases and society becomes more complex, there will be an increasing need to unify the profession through common knowledge—including artistic symbols. Thus, aesthetics can be a strong unifying social force.
3. As international contacts in sports multiply, there is a problem of unity because of language barriers. Visual arts constitute a universal language in themselves.

4. As our society becomes more sophisticated, the general cultural expectations concerning our role as physical educators will include the belief that our people should have a knowledge of, and interest in, aesthetics of sport.
5. We still have the problem of the stereotyped image of the poorly educated dirty-shirt physical educator looming in the minds of many people. The effectiveness of art in image-building and ideal-setting has been exemplified by religions throughout the world as well as through Madison Avenue advertising.

Among the many significant facts and trends which are of further interest to us for speculation are the following:

1. The AAHPER has created a Sport and Art Committee.
2. A national AAHPER convention was held, with culture as the main theme.
3. The new National Foundation for HPER lists as one of its four main purposes: "To foster, develop, conserve, and present art forms which give expression to aesthetic values associated with the three fields."
4. A National Art Museum of Sport has been created and will be located in Madison Square Garden.
5. There are an increasing number of special museums, halls of fame, and foundations, such as the Olympic Museum, Baseball Hall of Fame, National Professional Football Hall of Fame, Helm's Athletic Foundation, and many other similar institutions.
6. Government at all levels is giving increasing recognition and financial support to the arts.
7. *Sports Illustrated* is a powerful influence in the utilization of art for the interpretation of sport and has claimed to commission more original art than any other similar institution.
8. We are constantly informed that we are in the midst of the greatest cultural explosion in the history of the world.
9. There is a growing national concern for beauty in all forms; its preservation and its creation.
10. We appear to have reached a level of civilization wherein many people will have the time for, and the interest in, exploring all levels of recreative and aesthetic appreciation.
11. Anthologies of the literature of sports are increasing in number and quality.
12. Color reproductions of all kinds have reached a high level of excellence and availability; it seems reasonable to suppose that their excellence and availability will be even greater in the future.

We can observe in the foregoing list some evidence of a sport-in-art movement, plus great potential for bringing sport in art materials directly to students.

These artistic materials constitute a body of knowledge which records, interprets, and evaluates the worth of our activities, and, above all, each serves as a form of historical document. Certainly, the quality of the original works of art is of a high level of excellence, since they represent creations of the great artists of all times.

There are many ways, of course, to use these historical data. Certainly they may have great value as supplementary material for any general course in the history of physical education or for more specific histories such as the history of baseball. They might also be grouped as an aesthetics unit for courses with such titles as "Sport and Culture," "Sociology of Sport," "Philosophical and Cultural Foundations," "Sport and Society," etc.

After some beginning study, I have come to believe, and so recommend to you, what I believe will be the best organization of artistic materials for effective use in the curriculum.

First, each department of HPER should create a sport and art museum or gallery within their present facilities. This can be done by displaying works of art (or good reproductions of works of art) on available walls. This will permit students to live with sport and art daily throughout their college career.

Second, I believe every college and university should create an elective course wherein works of art which have to do with sports can be studied as cultural ends in themselves rather than as a means to understanding history. I further recommend a standard name for the course: "Aesthetics of Sport." The basic objectives of such a course would be cultural—that is, knowledge and interest in sport in art plus the refinement of thought, feeling, appreciation, taste, and imagination of the student.

The content of this course should include selected belles-lettres. Examination of the literature will show that many famous authors are represented. They include Ernest Hemingway, Somerset Maugham, P. G. Wodehouse, Arthur Conan Doyle, Leo Tolstoy, Richard Llewellyn, William Faulkner, Jack London, Damon Runyon, Ring Lardner, Evelyn Waugh, Thomas Mann, Guy de Maupassant, Philip Wylie, Rudyard Kipling, James Thurber, Budd Schulberg, Richard Harding Davis, Paul Gallico, O. Henry, Victor Hugo, John Masefield, G. B. Shaw, etc.

Many famous artists have worked with sport as their motif. Among these are to be found George Bellows, Thomas Eakins, Winslow Homer, John Steuart Curry, Fletcher Martin, Reginald Marsh, Maurice Prendergast, William Glackens, John Sloan, Pablo Picasso, Raoul Dufy, Fernand Leger, Jean Chardin, Claude Monet, Paul Gauguin, Edgar Degas, Pierre Renoir, Eugene Delacroix, Francisco Goya, Henri Matisse, Andrew Wyeth, George Caleb Bingham, Pieter Brueghel (the elder), and many others.

# Toward a Conceptual Model of the Academic Subject Matter of Physical Education as a Discipline

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In recent years increasing emphasis has been placed on the idea of physical education as an academic discipline. Several individuals have been giving thought in this direction and, recently, the American Academy of Physical Education and the Physical Education Division of AAHPER have initiated a long-term joint project to identify and structure the body of knowledge called physical education. A number of reasons have been offered to support the idea of the need for such projects. Some of these reasons have been—

1. To provide a basis for progression in the physical education learning experience.
2. To enhance our ability to interpret meaningfully the dimensions and depths of movement experiences.
3. To develop a structure so that important research may be directed in appropriate ways.
4. To move toward acceptance of physical education as an academic discipline in higher education.

In its own way each of these reasons has its validity, assuming one can accept the supporting motives. However, relatively little has been said directly about the idea of an academic discipline and its relation to the task of teacher education. The first purpose of this paper is to attempt to show the relation of the academic discipline concept to teacher education. The second purpose of this paper is to sketch the basic content and structure of an academic discipline dealing with human movement.

The basic relationship I see between the idea of an academic discipline and the task of teacher education is that one deals with subject matter content and the other deals with study of the educational process as it relates to the subject matter. Both academic subject matter and educational process may be studied separately in time. In the study of any subject matter, however, the structure of the subject matter must be integrated with effective educational process *through* the mediating agent of instructional theory. These points raise the question of time relationship of study of subject matter and of study of educational process in the continuum of teacher education. It is my hypothesis that the study of subject matter precedes in time the *conscious* study of educational process appropriate to the subject matter. Now I do not wish to imply that content and process are completely separate and distinct in the actual act of learning. What I am saying is that in teacher education there is a distinction between focusing upon understanding *subject matter* and upon understanding *how subject matter becomes understood by students*. This distinction may be clarified by the difference in focusing upon subject matter to understand its nature and in focusing on subject matter as a potential mode of education. The first focus emphasizes understanding the nature of the subject matter while the latter focus emphasizes the instrumental usage of the subject matter.

To summarize and channel these distinctions, it is now appropriate to say that understanding the nature of the subject matter precedes in time the attempt to study educational process either in or through the subject matter. Thus, in teacher education conscious study to understand the phenomenon of vigorous human movement precedes in time conscious study to understand the process of education in and/or through vigorous human movement. The following premises tend to support this contention.

1. Depth of understanding of subject matter is a necessary prerequisite to intelligent attempts to transmit it to others.
2. Understanding the phenomenon of vigorous human movement is not exactly the same as understanding the process of teaching in and/or through vigorous human movement.
3. The perspective with which a learner and a teacher approach the study of subject matter has a great deal to do with what kind of understandings come out of that study.
4. Disciplined subject matter suggests by its nature appropriate methods of inquiry to investigate it. Methods of inquiry of a discipline must be carefully integrated with educational process in the form of instructional theory in order for effective learning to occur. Therefore, the presence of a disciplined subject matter is a prior necessity to study of integration of educational process with the subject matter.

Granted the validity of these assertions, the importance of formulating the subject matter of physical education into an academic discipline becomes apparent. If acceptance of the above assertions may be assumed, it is now possible to delimit the scope of treatment here. Although it may be frustrating to eliminate certain factors from consideration, it is necessary at this time to *exclude* conscious attention to (1) concern for the pedagogical organization of movement experiences including either teaching methodology or curricular structure and (2) concern for methods of inquiry appropriate to the discipline itself.

The focus, then, is upon a description of the basic subject matter of physical education as an academic discipline and upon its structure. In other words, the concern is with *what* the subject matter *is* and not with *how* it is used.

At this point, it becomes necessary to attempt to understand what is meant when we talk about an academic discipline. One mode of description of an academic discipline asserts that it is an *organized body of knowledge* suitable for instruction. A second mode of understanding the nature of an academic discipline is by stressing its *goal* as being *understanding a portion of reality* as distinguished from changing reality. A third way is by *distinguishing the elements of a discipline*. The elements of a discipline may be listed as content, structure, and method of inquiry. Or the elements might be identified as a specifiable scope of inquiry, a structured subject matter and a recognized set of procedures for acquiring, validating, and ordering new knowledge. The commonalities in the preceding discussion of the nature of an academic discipline might be expressed as follows. An academic discipline has—

1. A type of content which it looks at from a certain perspective; that is, it focuses on an area of reality with the goal of understanding it. This may be called the perspective and the perspective serves as the intrinsically integrating element of the discipline.
2. A structured ordering of its content so that discrete content items are organized into conceptual categories in accordance with the perspective. These may be called key concepts.
3. Substantive content consisting of the more particular concepts which are grouped under the common characteristic of each of the key concepts. The more particular concepts which appear under one key concept are related to the more particular concepts which appear under another key concept *through* the perspective which integrates the discipline. Further, the more particular concepts take on some dimensions of meaning pre-

cisely because of their relationships to other concepts within the discipline. That is to say, the significance of a formerly discrete item is changed and amplified by its relations within the discipline—by its existence in a *Gestalt*. This may be called substantive content.

4. A set of recognized and approved procedures for examining, validating, and placing in the structure new understanding. Appropriate procedures are suggested by the nature of the substantive content, the key concepts, and the perspective of the discipline itself. This may be called the method of inquiry or, if appropriate, methods of inquiry.

Of these four facets, I shall discuss only the first three. I hope to develop a conceptual model of what I believe to constitute the basic perspective, key concepts, and substantive content of physical education as an academic discipline. The terminology employed to designate the key concepts and the substantive content is of no earth-shaking significance. More important are the concepts and relationships which the terminology attempts to explain. Although I do not intend to investigate carefully the methods of inquiry which would be appropriate, I must reiterate that any well-structured discipline strongly suggests its own proper methods of inquiry. Accordingly, I will make one or two brief comments regarding methods of inquiry toward the end of this paper. Before examining the conceptual model, it is necessary to repeat that this paper is not concerned with how such a model might be implemented. This obviously important question must await general understanding of the nature of a discipline and of this particular model of one. Again, it is most difficult to understand how to implement something until you know what that something is.

In order to show and explain relationships, a diagram will be employed. Since I am presently attempting to communicate to you a total picture, an understanding of the elements of that picture, and the relationships among the elements, I will employ a whole-part-whole approach in presentation of the diagram and its discussion.

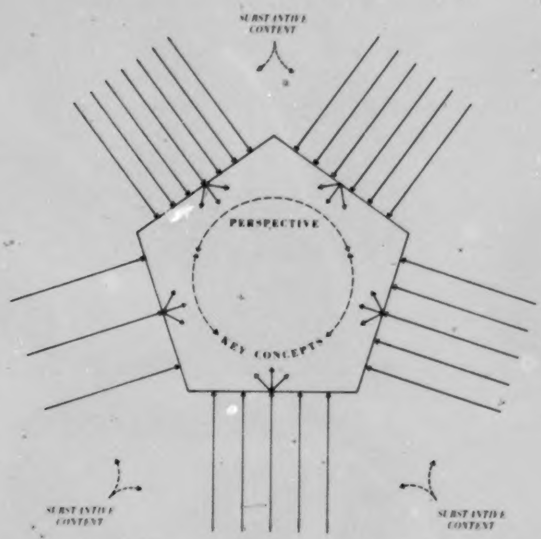

**Figure 1**. *Skeletal structure of the proposed conceptual model.*

In the schematic diagram (Fig. 1) it may be seen that the perspective operates as the intrinsically integrating element of the discipline. It should be noted that the substantive content and the key concepts all point to the perspective. Also the key concepts and the substantive content become related to each other *through* the perspective. The central, integrating perspective for this conceptual model is identified as follows:

> *Perspective:* The uses and meanings appropriated by individuals and groups in, of, and through vigorous human movement called exercise, games, sports, athletics, aquatics, gymnastics, and dance.

The perspective gives definite direction to the kinds of movement this discipline investigates (i.e., exercise, games, sports, athletics, aquatics, gymnastics, and dance) and, at the same time, to what it is trying to find (i.e., uses and meanings) in and about those kinds of movement. This discipline, then, attempts to investigate exercise, games, sports, athletics, aquatics, gymnastics, and dance in order to understand their uses and meanings to and for individuals and groups.

The hypothesis is offered that the perspective of a discipline must come out of the nature of the phenomenon which the discipline examines. Conversely, it is improper to determine the perspective from the viewpoint of another discipline. Therefore, a discipline which purports to seek understanding of human movement must define its perspective in terms of the ontological qualities of movement itself. Thus, in this conceptual model, it is affirmed that all human movement of the kinds identified *has* and *is* uses and *has* and *is* meanings. It is now possible to define the terms uses and meanings as employed in this conceptual model.

> *Uses* signifies ways in which vigorous human movement of the types identified is consciously or unconsciously employed as an instrument for the achievement of purposes external to the movement itself. This perspective emphasizes the *instrumental* quality of movement. Language used to describe uses tends to be denotative in character.
>
> *Meanings* stand for the significances which are appropriated in movement itself. Such significances are not primarily dependent upon the external references of movement but upon the *intrinsic* qualities of movement. Language used to describe meaning tends to be connotative in character.

Uses and meanings are not mutually exclusive. As a matter of experience they have a fluid, interpenetrating quality. For example, uses can, over time, ingrain particular movements with particular meanings and thus the movement itself becomes invested with the meaning. To illustrate, somewhere in the dim past some person expressed his feeling of triumph and victory by raising both hands over his head, clasping them and shaking them as though congratulating himself. Within certain cultures at least this particular movement now stands for, i.e., symbolizes, the meaning—triumph. In this same example, but looking at it from a different perspective, we may find that originally the meaning of triumph was a personal one, that is, the possession of an individual. However, this originally personal meaning was communicated to others and then socially adopted as the common meaning of the movement. The common adoption then invested the particular movement with a previously unrecognized use, that is, the use of expressing the meaning—triumph. So it may be understood then that use can become meaning and when that occurs the meaning lends to the movement the particular use of expressing the meaning.

For the sake of philosophical clarity, however, it is necessary to recognize that this fluid relationship of use and meaning seems to have its genesis in *personal meaning*. Nonetheless, for the sake of study of the movement phenomenon within an academic discipline, it is appropriate to recognize that movement can be investigated primarily from the aspect of

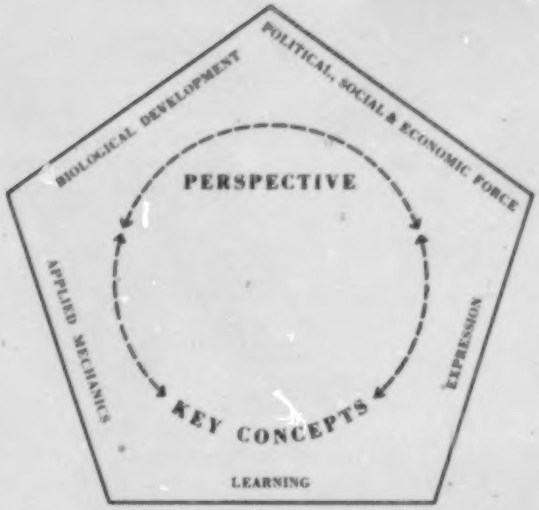

**Figure 2.** *The key concepts of the proposed conceptual model.*

*use-ful-ness* or primarily from the aspect of its *mean-ing-ful-ness*. Consequently, a discipline which seeks to understand the nature of vigorous human movement must include both aspects of the perspective within itself. To complete this exposition on the perspective element of this conceptual model, it must be said that movement has use or meaning to both individuals and groups and that it may have both use and meaning to either individuals or groups or to both simultaneously.

The next element in the conceptual model is that of the key concepts. These key concepts are the congeries of knowledge and understanding called substantive content. The key concepts are organized in relationship to one another through the uses and meanings perspective (Fig. 2). Before defining each of the key concepts, it may be helpful to clarify how to read the diagram itself. Combining the content of the perspective with the key concepts the diagram may be read in the following manner:

> Vigorous human movement called exercise, games, sports, athletics, aquatics, gymnastics, and dance has and is use and meaning as biological development; as political, social, and economic force; as expression; as learning; and as applied mechanics to individuals and to groups.

Each of the key concepts may now be defined with the understanding that they will become increasingly clear when the substantive content under each key concept is explicated later.

*Biological Development* signifies the uses and meanings of vigorous human movement in development of functional and adaptive abilities and in the alteration of structure.

*Political, Social, and Economic Force* signifies the various ways in which vigorous movement has been and is a factor in affecting and in implementing relationships and aspirations of groups, individuals, and institutions in the political, social, and economic spheres.

*Expression* signifies the conscious or unconscious objectification in and through movement of the inner dimension (i.e., the mind, soul, or spirit) of the person or the group.

*Learning* signifies the relatively permanent change brought about in a person's being because of experiences in vigorous movement.

*Applied Mechanics* signifies the utilization of bodily movement in ways which depend for effectiveness upon harmony with physical-mechanical laws. Particular movements or styles of movement also can mean effective applied mechanics.

The definitions of the key concepts will become clearer when the substantive content proposed under each concept is indicated. The proposed substantive content is shown in Figure 3. Each element of substantive content should be read in relation to its key concept and to the perspective. Using the perspective as central, an example utilizing one element under each of the key concepts follows:

Vigorous human movement of the types identified has and is use and meaning as—

*Biological development* of muscular strength and endurance.

*Political, social, and economic force* in conferring survival benefits on systems.

*Expression* of attitudes toward and understanding of self.

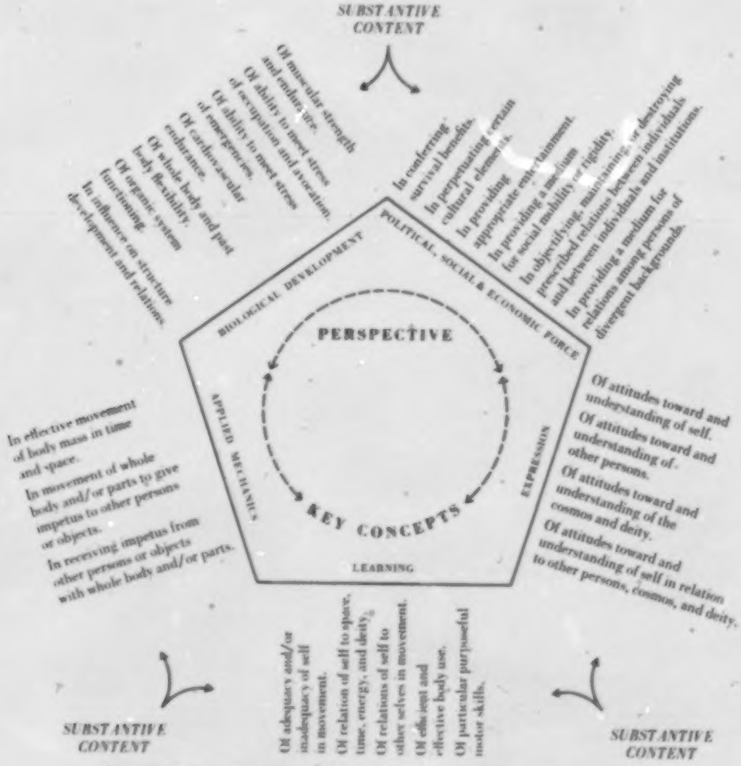
SUBSTANTIVE CONTENT
Of muscular strength and endurance.
Of ability to meet stress of occupation and avocation.
Of ability to meet stress of emergencies.
Of cardiovascular endurance.
Of whole body and part body flexibility.
Of organic system functioning.
In influence on structure development and relations.
In conferring survival benefits.
In perpetuating certain cultural elements.
In providing appropriate entertainment.
In providing a medium for social mobility or rigidity.
In objectifying, maintaining, or destroying prescribed relations between individuals and between individuals and institutions.
In providing a medium for relations among persons of divergent backgrounds.
BIOLOGICAL DEVELOPMENT
POLITICAL, SOCIAL & ECONOMIC FORCE
PERSPECTIVE
APPLIED MECHANICS
EXPRESSION
KEY CONCEPTS
LEARNING
In effective movement of body mass in time and space.
In movement of whole body and/or parts to give impetus to other persons or objects.
In receiving impetus from other persons or objects with whole body and/or parts.
Of attitudes toward and understanding of self.
Of attitudes toward and understanding of other persons.
Of attitudes toward and understanding of the cosmos and deity.
Of attitudes toward and understanding of self in relation to other persons, cosmos, and deity.
Of adequacy and/or inadequacy of self in movement.
Of relation of self to space, time, energy, and deity.
Of relations of self to other selves in movement.
Of efficient and effective body use.
Of particular purposeful motor skills.
SUBSTANTIVE CONTENT
SUBSTANTIVE CONTENT

**Figure 3.** *The substantive content of the proposed conceptual model.*

*Learning* of adequacy and/or inadequacy of self in movement.

*Applied mechanics* in movement of whole body and/or parts to give impetus to other persons or objects.

Only a few of the elements of the substantive content will be explained now. Examination of the use and meaning of vigorous movement as learning of adequacy and/or inadequacy of the self in movement might develop statements such as the following:

1. Deliberately structured movement experiences can be used to increase a person's self-understanding of adequacy and/or inadequacy in movement. In movement activities where the criterion of successful performance lies in an absolute standard external to a person with inadequate abilities it is likely that that person will fail to meet the standard and thus, over the time of repeated failure, tend to learn his inadequacy in movement. Conversely, in the same type of external standard movement experience, a person with good movement capacity and ability may, over the time of repeated success in meeting the standard, increase and reinforce his learning of adequacy in movement.
2. Certain movements externalize for individuals their learning of personal adequacy and/or inadequacy in the movements. For the individual who is highly skilled in shooting a basketball the movements become, in some cases, meaningful to him as his adequacy. Each repetition of the meaning tends to reinforce the learning to the point of a practical correspondence between shooting the basket and adequacy for that person. However, this same person may have inadequate ability to perform effectively in meeting the external standards of dancing a tango. With several repetitions of failure in dancing the tango, the dance can now become a symbol for the person's inadequacy in movement. To generalize, if a person's movements symbolize adequacy more consistently and frequently than inadequacy, movement in general tends to be learned as a symbol of the meaning—adequate.

An analysis of the uses and meanings of vigorous movement as expression of attitudes toward and understanding of self may help us understand how the substantive content appearing under one key concept becomes related to the substantive content under another key concept through the uses and meanings perspective.

1. Vigorous movement is often used unconsciously to express a person's attitude toward and understanding of his own adequacy or inadequacy in movement. Most of us have noted the phenomenon of the beginning learner of a particular movement whose movement is stiff, jerky, and disjointed. In some instances, this takes place in persons who have a previous record of adequacy experiences in movement but externalize their personal awareness of inadequacy in this particular movement by expressing it in stiff, jerky, and disjointed movement. Also we have observed the previously adequate mover who, in moments of extreme competitive pressure, moves in ways inadequate to the demands of the situation. Movement here becomes an expression of the inadequacy of the person in movement in that situation. Our vernacular to describe persons to whom this happens is "choke artist," "olive swallower," "muscle grabber," or "practice player." Now all of these examples lead to the summary that the moving person often unconsciously uses movement to express his attitudes toward and understanding of his self as adequate or inadequate. The relationship of expression to learning through uses and meanings seems to be a close one.
2. For example, when a persons's movements become an objective presentation of his adequacy and/or inadequacy in movement, they then are his expression of that meaning. But this meaning is not expressed solely to other persons, but also is perceivable by the mover as the meaning. Continued perception by the mover of the meaning of adequacy

and/or inadequacy in movement tends to become the mover's *learning* of adequacy or inadequacy. In turn, the learning becomes objectified by expression in movement. So it may be seen that the subject matter content of movement as expression of attitudes toward and understanding of the self in movement becomes significantly involved in and related to the subject matter content of movement as *learning* of adequacy and/or inadequacy in movement.

3. In another way, movement may be consciously used to express attitudes toward and understanding of self. This applies when movement is an art form such as modern dance. In this kind of movement, it is possible for the mover to attempt to express deliberately his own attitudes toward and understanding of self-adequacy or inadequacy and, further, to attempt to express these same attitudes and understanding of self in relation to other persons, the cosmos, and deity.

Now to discuss some of the substantive content under the uses and meanings of movement as the biological development of muscular strength.

1. It is quite obvious that specific kinds of movements can be and are designed specifically for the purpose of strength development. Also, an intelligent design of an exercise program of this nature must be related to the substantive content of the applied mechanics key concept. Additionally, we are aware that certain sports, by their intrinsic nature, are more conducive to the development of muscular strength. The main point is that movement can be and is used in these ways.
2. But movement can also be used to express the *meaning* strength. For example, it is probably true that the overhead position of the military press in weight lifting is an active symbol meaning strength. In this case, the moving weight lifter is unconsciously expressing the meaning strength. However, it is also possible for movement to be consciously used to express the meaning strength when movement is an art form.
3. Again, the use of movement to develop strength seems always to have a purpose, whether conscious or unconscious. Purposes of strength development often have meaning in the substantive content under other key concepts of the conceptual model. For instance, the use of movement to develop muscular strength can have meaning under the political, social, and economic force concept in conferring survival benefits upon systems. Again, this example helps to indicate how substantive content under one key concept becomes involved in and related to substantive content under another key concept through the uses and meanings perspective.

These brief explanations of a few elements in the substantive content have been made to give insight into the kinds of integrative understandings of the phenomenon of movement which become available within a structured discipline. The use of movement to develop muscular strength is understood quite differently when it is related to the purpose of conferring survival benefits upon a political system, in contrast to preparation for a specific athletic contest involving movement of the whole body and its parts to give impetus to other persons or objects. Understanding of movement as a developer of muscular strength is enriched by content from both of these dimensions. It is these kinds of understandings, and many more, which I believe absolutely essential for any person who would be either teacher, scholar, or both in physical education. Such understandings become generally available when the subject matter content of a discipline is structurally ordered so that it leads people to seek relationships among concepts. It is these kinds of understandings which enable the potential teacher to become more intimately acquainted with the nature of his subject matter tool: vigorous human movement. These understandings are thus prerequisite to the attempt to arrange and conduct educationally sound movement experiences.

No mention of history or philosophy has been made. It is now time to speak directly to that point. First, both history and philosophy are *synoptic* disciplines by nature. Thus, I would like to suggest that any history of human movement and any human movement theory (philosophy) properly arises out of effective application of historical and philosophical methods to the concepts and data which appear within the discipline. No doubt an interesting history could be constructed from an examination and synthesis of the historical development of uses and meanings of movement under each of the key concepts. With respect to philosophy, data and concepts derived from the study of movement in this discipline could be synthesized to develop a theory of movement. Interestingly enough if disciplines purporting to study human movement from other perspectives became a reality, differing histories and theories of human movement would develop. The logical outcome of this would be the establishment of "schools of thought" regarding human movement which would contradict, cross-fertilize, and stimulate each other. The establishment of such "schools of thought" would be most salutary.

Regarding methods of inquiry appropriate to this conceptual model, examination of its content and structure should make it clear that inquiry solely from the approach of science would be inadequate, although certainly necessary. In brief, the attempt to understand the uses and meanings of vigorous movement *solely* by standing outside of it and observing it as objective behavior would be inadequate. Thus, the necessity of direct involvement in *doing* movement becomes evident. Engagement in doing movement becomes in this discipline, then, an aspect of the methods of inquiry appropriate to the discipline. Doing movement here becomes similar in nature to methods of inquiry in art which involve doing art, in literature and poetry which involve writing literature and poetry, and in music which involve singing or playing musical instruments. The need for methods of inquiry commonly associated with the humanities and arts becomes a necessary partner to methods of inquiry associated with the sciences. Generally then, methods of inquiry for this conceptual model would necessarily include approaches from both the objective and subjective dimensions of existence.

It is worth noting here that the conceptual model holds a promise of combining in one discipline the approaches from the sciences, humanities, and arts. If successful, such an arrangement might well serve to repair the unfortunate bifurcation of thought which characterizes the sciences on the one hand and the humanities and arts on the other. Development of such a discipline could serve as the bellwether for all of higher education in bringing these two varying methods of inquiry into a mutually stimulating relationship.

# Reaction to Fraleigh's Presentation

**ROGER K. BURKE**
Occidental College

Let us assume for a moment that Fraleigh's conceptual model for physical education as a discipline is completely invalid. Let us assume that his conceptual model is to the future of physical education what the phlogiston theory and alchemy were to the development of chemistry as a discipline. Even if this were so, Fraleigh's model, and one or two others which have recently appeared upon the scene, would stand as significant, and perhaps even monumental, contributions to the theory of physical education. Could chemistry have developed *without* a phlogiston theory or *without* alchemy? I think not. Regardless of their ultimate validities, the appearance of such theoretical structures constitutes evidence of increasing maturity in any scholarly discipline. Physical education has joined other disciplines which are in the process of achieving theoretical maturity. Here, then, lies the greater significance of Fraleigh's proposal.

Now, this is not to suggest that *all* recently proposed theories are worthy of serious scholarly consideration. Some proposed theories actually are nothing more than a suggestion to change the name of physical education. Others do nothing more than borrow aspects of subject matter from other disciplines and reclassify them under the heading of physical education. If that is all that these proposals have to offer, they really should not be taken too seriously. But several of the new proposals *do* have more to offer. We have reached the stage of development at which we can abandon the debate over whether or not physical education is a profession, and turn our attention to the creative problem of formulating and defining our discipline, our field of knowledge. This is a remarkable step forward.

Like Eleanor Metheny's recent development of a theory of human movement, Fraleigh's proposal is crisp in its definition of terms, tight and clean in its logic, and pregnant in its possibilities for further development. In a sense, it can be criticized only by proposing an alternative concept of equivalent stature. I have no such alternative to present at this time, but I was enlisted here to be a critic, and therefore I'm going to do my best to split a few hairs and search for a few bugs.

The central point of this theory was the statement of perspective, and the perspective was stated as follows: "The uses and meanings, appropriated by individuals and groups, in, of, and through vigorous human movement called exercise, games, athletics, aquatics, gymnastics, and dance." A question might be raised about the *delimitation* of human movement as stated. Human movement, in the statement, was delimited in two ways. First, "vigorous" human movement was specified. Second, the term was delimited to those *kinds* of human movement called exercise, games, sports, etc.

In examining these two delimitations, it might be pointed out that to some extent they are in conflict. The adjective "vigorous" may be too *exclusive* to describe adequately the varieties and qualities of movement employed commonly in exercise and sports. If we discuss only vigorous human movement, we apparently eliminate such factors as rest, recovery, postures, attitudinal positions, passive movement, movement powered only by existing momentum, and the great variety of subtle, nonvigorous movement so extensively employed in the activities referred to, including nonvigorous movements such as gestures, feints, eye movements, and a myriad of fine, precise, lightly powered movements. In some instances, whole sports or whole aspects of some sports might be excluded. However, this indeed may be hairsplitting, because the objection, if valid, could be remedied by modifying one adjective, and anyway it is to be expected that such an abbreviated definition of human movement would require some interpretation and expansion.

A more fundamental question may be raised with respect to the second delimitation—the one which restricts this discipline to consideration of those kinds of human movement called exercise, games, sports, etc. This excludes from consideration the kinds of human movement involved in work and the activities of daily living. It excludes much of the field which is known as "human factors." It excludes from consideration the kinds of human movement performed by housewives, clerks, business executives, barbers, dentists, factory workers, truck and automobile drivers, and (not least of all) astronauts and aquanauts. Operationally speaking, physical education *has* invaded these fields. Increasingly, it has been recognized that physical education has something to offer to the understanding of these fields. And most important of all, it is becoming clear that knowledge *from* these fields feeds back to clarify and expand and define the fundamental concepts of our discipline.

I am suggesting that the subject matter discipline—the field of knowledge—should include *all* kinds of human movement. This would provide a cohesive, inclusive body of knowledge. It would recognize the fact that no theoretical division, at the level of principles, separates the human movement that is employed in exercise and sports from the human movement that is employed in other aspects of human endeavor. And it would not in any way put a practical restriction upon anyone who wished to slant or apply the principles of human movement to particular pragmatic areas of interest, such as exercise and sports, or physical therapy, or the ability of man to adjust to exotic environments. Employing this broader concept of the discipline would obviate the need to define additional disciplines whose key concepts would be essentially the same, and whose only reason for independent existence would depend upon the particular practical applications to be made.

Now, let me emphasize that I do not advocate that traditional physical education be dissolved and lost in some esoteric definition of subject matter. I happen to be one who believes that the only justification for the professional existence of most of us here is our preoccupation with the recreational and developmental aspects of exercise and sports.

Turning to another topic, some questions might be raised about the "Key Concepts." If, in this conceptual model, key concepts are defined as the congeries of knowledge and understanding, or the substantive content, of this discipline, then should not the intrinsic substantive content of sports, dance, and so forth, be listed? It seems to me that unique substantive content for the discipline can be derived from the structural format, the extensive strategies, and the constraints imposed by rules and implements and organization of sports, dance, and the rest. I raise this question, although with some feelings of uncertainty.

Again at the level of key concepts, certain incongruities appear to me. For example, the key concept called "Expression," as it is defined, seems to be almost entirely an output entity, while the key concept entitled "Learning" seems to be almost entirely an input entity. Perhaps there is nothing incongruous about this, and yet in my mind each of these two things is a two-way, or interactional, proposition, and not unidirectional.

Further, the key concept entitled "Political, Social, and Economic Force" seems to be remarkably large and complex when compared to the key concept entitled "Applied Mechanics," which is extremely limited and specific in its scope.

In concluding, let me say that I am very favorably impressed with this theoretical construct, although obviously many details remain to be worked out. In any event, I think that this theory is worthy of extensive discussion and criticism. I can't think of a better compliment than that to extend to Fraleigh, and I congratulate him.

# Reaction to Fraleigh's Presentation

**SEYMOUR KLEINMAN**
Ohio State University

At the outset of his paper, Fraleigh stated that he wished to accomplish two things: first, to show the relation of the concept of an academic discipline to teacher education and second, "to sketch the basic content and structure of an academic discipline dealing with human movement."

He has achieved the first objective admirably. There can be no objection to his contention that subject matter and educational methodology are distinct entities. Teacher preparation programs have never seriously contended otherwise. One studies the subject in one course and learns how best to transmit or teach the subject in another course. This has been the traditional approach to teacher education from the beginning. Nor can we take serious exception to the author's contention that subject matter should be mastered before one should attempt to learn how to teach it. Although it must be admitted that if the two are indeed distinct entities, they could be mastered concurrently without serious detriment to either area. But this is only a minor point and should be treated as such.

It is the second purpose of Fraleigh's paper that I wish to deal with at greater length. Obviously he attaches greater significance to delineating the basic content and structure of physical education. And rightfully so, for it is this task which this generation of physical educators must accomplish.

The author states that his "concern is with *what* the subject matter *is*." He then defines this subject matter to be the *use and meaning* an individual or group gets from indulging in games, exercise, sport, athletics, aquatics, gymnastics, and dance. It is here that I must object. Fraleigh, at this point, commits the same error that has plagued this profession for the past fifty years. By defining physical education in terms of the *uses* and *meanings* one derives from activity, he immediately removes himself from the very core of the nature of the discipline itself.

For example, when the mathematician is *doing* mathematics, he is involved with number and symbol theory. He, at that point, is not concerned about their use and meaning. When the physicist does physics he concerns himself with physical phenomena in the natural world. The discipline of physics is precisely that. When this physicist begins to talk about the uses and meanings of his discoveries, he is no longer doing physics but is acting as a political scientist or philosopher. In a like manner the physical educator is doing physical education when he is exercising, playing a game, or dancing. These activities are what constitute the nature of the physical education discipline—not their uses and not even their meanings.

What Fraleigh has done is precisely what he has warned us not to do. He states that "it is improper to determine the perspective from the viewpoint of another discipline." Yet his conceptual model lists as its key concepts the use and meaning of (a) biological development; (b) political, social, and economic force; (c) expression; (d) learning; and (e) applied mechanics. All of these key concepts are in reality engaged in the practice of another discipline, each with a subject matter of its own. When one studies biological development of muscular strength and endurance, one is engaged in biology, physiology, or anatomy. In a like manner, the study of political, social, and economic forces, learning, and applied mechanics involves one in sociology, psychology, political science, and physics.

What results is a model that studies human movement not in its own right, but through the eyes of a myriad of other disciplines. Thus, I must disagree with Fraleigh. I feel no threat and I doubt that his conceptual model poses a threat. Physical education has conceived of itself in this way for years. That is why we have so many physical educators doing psychology, sociology, physiology, and everything else under the sun *but* physical education. For me his conceptual scheme offers an excellent categorization of the areas we utilize in attempting to explain movement and its meaning. But I fail to see how this changes our traditional view of sport, games, dance, aquatics, and exercise.

# The Integration of a Style of Teaching with the Structure of the Subject Matter[1]

**MUSKA MOSSTON**
Rutgers, The State University of New Jersey

Indeed, there is ferment in physical education. Across the continent and in many other countries our colleagues are seeking answers to questions of content, direction, meaning, structure! It has become rather meaningless and at times futile to conduct programs in teacher preparation which are based on merely traditional, idiosyncratic beliefs or even on subcultural needs, conditions, or goals. Broader knowledge needs to be organized and identified into a discipline with characteristics and structure defined as universally as possible. Similarly, culturally preferred substructures which are only subsidiary to a larger and more all-embracing arrangement need to be classified.

The considerable surge of proposals, theories, terminology, and interdisciplinary attempts, reflect the need for a more comprehensive statement about the nature of physical education and the nature of its teaching. An excellent delineation of the present status of this issue was offered in Locke's "The Movement Movement." The ever present questions of what to teach and how to teach permeate most if not all works dealing with physical education. These works seem to fall into at least two major categories:

A. Those which investigate the essence of the field, its components, and the existing and potential relationships of the components. Perhaps this can be identified as the attempt to create and develop an academic discipline of human movement as proposed by Fraleigh, Smith, Henry, Stish, Abernathy and Waltz, Methony, Mosston, and others.

B. Those concerned with the transmission and acquisition of knowledge and its interpretation in behavior, Hunt, Walters, Lockhart, Lowther, Ryan, Brackenbury, Jokl, Cratty, Mosston, and others seem to point in that direction.

The writers in the first category focus on describing and interpreting human movement. They describe the existence of the *matter* of the field and interpret its purposes and uses. Those in the second category mainly focus on the *manner* in which the *matter* is perceived, understood, taught, and learned. Sometimes the two categories appear to reflect a dichotomy between the *what* and the *how* although members of each group seem to have touched upon the *focus* of the other. So possibly a third group of writers emerges: those attempting to understand and clarify the relationship between the very structure of subject matter and the ways it can be taught and learned. This address concerns itself with this very issue of integration of a teaching style with the structure of subject matter.

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[1] A bibliography may be obtained from the author upon request.

A style of teaching as defined by Mosston in *Teaching Physical Education: From Command to Discovery* is a set of decisions made during the teaching act. Decision variables have been identified in an "anatomy of a style" and the variety of styles have been arranged in a construct called the "spectrum of teaching styles." The mobility along the spectrum is characterized by a shift in decision making from teacher to learner. Another major tenet of the spectrum is the involvement of continuous, gradual decisions which call for more cognitive operations prior, during, and after the movement-task.

Structure of subject matter (and let us remain, presently, within the traditional view of subject matter in physical education, namely, the identified activities) is understood as the unique arrangement of the movements which must exist in order for a given activity to be identified as such. The structure is held together by relationships peculiar to itself; it contains concepts which outline its very existence as a unique activity. These concepts in turn suggest an order and a sequence of events within the activity. It dictates preference of inclusion and exclusion of movements as an integral part of the activity. It determines the limits of the activity.

These have been arranged and described in *From Command to Discovery* as the "hierarchy of the structure of subject matter." "This concept relates the given conditions which must exist as a premise of an activity to the product, to result—in the activity itself as we know it. It involves manipulative levels of the body and its possibilities through any matrix of movement which produce categories of facts (or instances), relationships, preferences, limits, concepts, and variations." All these are inherent in the structure of an activity and proclaim its uniqueness.

Now, we have brief descriptions of two separate entities: one, the structure of subject matter (it is assumed here that the proposed "hierarchy" can serve as a universal point of view concerning an activity); the other, the "spectrum of styles," a structure of teaching behavior. The proposal that the spectrum of styles exists as a behavioral structure independent of specific subject matter stands in contrast to some who suggest that the *what* of the discipline—its content and conceptual structure—can be interpreted only in light of the *how*, the method and the level of inquiry. The latter, in turn, must be appropriate to the content and concepts under investigation. When we take this view of the disciplines, we emphasize the method of inquiry as an integral part of a field of knowledge.

It is proposed, then, that it might be worthwhile to investigate the possibilities, feasibility, and efficiency of the *existing* relationship between *any* style of teaching and *any* subject matter (activity). The following diagram may clarify this condition of possible relationships (Figs. 1 and 2). Theoretically, each activity can be taught by each style. Empirically, the entire spectrum of styles has been tested by our department at Rutgers in elementary and secondary schools for the last six years in a great variety of activities.

Observations indicate that it is possible to superimpose the use of any style in teaching any activity. Furthermore, it is possible to use any style in teaching any component of the structure of the activity. For example, if "screening" represents a concept which is common to a family of games (not a specific screening in a specific game), then it can certainly be taught by "command" style. You just tell the student whatever has to be told about screening *prior* to the physical execution of the screening task.

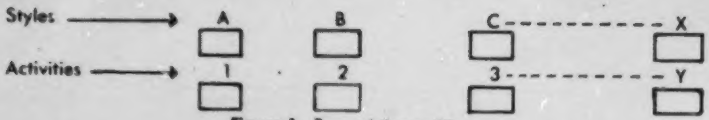


**Figure 1.** *Two existing entities.*

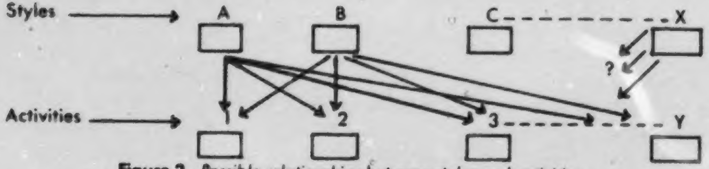


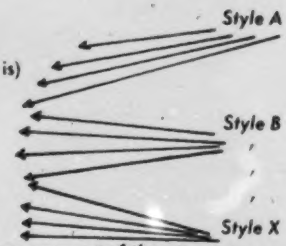
**Figure 2.** *Possible relationships between styles and activities.*

Reciprocal teaching (the use of the small group) can be used *during* the execution of the task. Likewise, "guided discovery" can be used prior, during, and after the execution of the task: prior to the execution for comprehension purposes; during the execution for enhancing perception; and after the execution for assessing the information received and perceived during the performance.

*Activity 1*

1. The "facts" of the activity (isolated instances)
2. Relationships (which make the activity what it is)
3. Preferences (due to roles; other conditions)

4. Concepts
5. Variations
6. Limits



**It is possible to use any style to teach any component of the structure of an activity.**

A fundamental question arises, granted the multiplicity of relationships between structure of subject matter and styles of teaching: Is there a way of determining preference? Which style would be efficient with which activity? Certainly efficiency here *must* be defined in terms of a specific purpose and a criterion. If the purpose is to move a class from point A to point B in the gymnasium and *time* is the criterion for efficiency, then you emit the necessary stimuli and elicit the expected response (command style). However, if the purpose is to explain to the class the concept of the fast break or the principles of the lever in gymnastics and the criteria for efficiency are comprehension and analytic process, then one of the discovery styles which engage high-power cognitive involvement might be preferred.

Let us examine several examples and look at the S–S.M. (style–subject matter) relationships from different angles and different dimensions in learning. Research in learning tells us about the importance of knowing results. Immediate feedback is an important principle in learning theories. Now shooting, as an instance in the structure of basketball, provides the learner immediate knowledge of results. This knowledge is indeed concrete. It is inherent in the task and is *quantitative* in nature. The very nature of the task, its structure, suggests the selection of teaching style. The learner, in this case, can teach himself. The structure of the activity not only offers a measurable result, it also induces learning adjustments for subsequent trials (if previous trials met with failure), adjustments in distance, height, direction, power, and so on.

It is, indeed, unnecessary for a teacher to tell (one of the characteristics of the command style) the learner to shoot higher after he has shot below the rim.

How many other activities offer such opportunities for self-learning and individual programing? Activities, the structure of which does not offer a quantitative feedback, necessitate the use of another style of teaching. In tumbling, most feedback is *qualitative* and, therefore, the learner (certainly a beginner) needs "augmented feedback" that comes from someone else. Hence the relationship between the structure of tumbling and the reciprocal-teaching style—in this case, the use of a partner.

The examples thus far showed the S–S.M. relationship in terms of the execution of the physical task and discussed in light of one learning principle: feedback. There are other principles and other educational schema. Bruner in his recent book *Toward a Theory of Instruction* states: To instruct someone in these disciplines is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge. We teach a subject not to produce little living libraries on that subject, but rather to get a student to think mathematically for himself, to consider matters as an historian does, to take part in the process of knowledge-getting. Knowing is a process, not a product.

One wonders whether this statement applies to physical education? What, then, would be the product in physical education? Scoring so many points on the playing field? Executing a handstand? Anything else? Then what would constitute the process and consequently the knowing? Would it be the act of seeking to understand the laws which govern performance? The logic in the development of an activity? Finding new movements? Regardless of definition, teaching for product or teaching for process requires the selection of different styles of teaching.

Bruner further discusses learning and growth by proposing that "human beings develop three parallel systems for processing information and for representing it: one through manipulation and action, one through perceptual organization and imagery, and one through symbolic apparatus. It is not that these are "stages" in any sense; they are rather "emphases in development." He calls the first system "enactive," the second "iconic," and the third "symbolic." Physical education has certainly emphasized the "enactive" level. This is done through action. Since the structure of all activities provides action, the command style (I say—you do!) seems quite appropriate. Historically, the command style has been most common in teaching physical activities. Perhaps it has been so because of greater emphasis on product and less on process. (The end product in physical education entertains the qualities of high visibility and immediacy. These might have affected the emphasis on product. There must also be other social-psychological reasons for this phenomenon.)

What styles of teaching *must* be used when we identify those parts of the structure of subject matter requiring the iconic level, a level which is "principally governed by principles of perceptual organization and by the economical transformation in perceptual organization—techniques for filling in, completing, extrapolating"? Both the iconic and the symbolic system require more than just action. Indeed, the symbolic system calls for a variety of kinds and levels of cognitive operations. Raths in *Teaching for Thinking* discusses thinking operations such as comparing, summarizing, observing, classifying, interpreting, criticizing, looking for assumptions, imagining, collecting and organizing data, hypothesizing, applying facts and principles in new situations.

Have you ever taught vaulting through the use of these "thinking operations"? Does the structure of vaulting lend itself to such operations? And if so, which style of teaching will invoke, promote, and develop these operations? What about wrestling, fencing, football, swimming, gymnastics, hockey, dance, volleyball, and many others? Do they offer opportunities beyond the action level? In order to answer this question, it becomes necessary to analyze these activities not according to their "action-logical-order" but according to the cognitive operation that a given phase of the activity might require and promote. And only then is it possible to select the appropriate style of teaching which is perhaps best suited for this phase of the activity and the sought cognitive operation.

For example, in teaching vaulting one can select any group of vaults, randomly arranged or organized by a given criterion, such as degree of difficulty. This can be accomplished by demonstration and explanation of the performance details. (Both of these behavioral acts are part of the command style.) However, in teaching vaulting conceptually one might select the cognitive operation of comparing as the focus of the session and this affects the content, the order, and the limits of the subject matter taught during this vaulting session. One would have to select vaults that elicit the operation of comparing. These might be a most *compact* vault vs. a most *extended* vault. When asked, the student invariably discovers that these vaults represent the concept of variability in postural arrangements along the minimum to maximum dimensions. He will also discover that there are a variety of *alternative* vaults that belong to this "family."

Similarly, one proceeds to other concepts and operations which are discovered and understood before, during, and after the physical act of vaulting. The need arises here to engage in a style of teaching that does all these things. Guided discovery, problem solving, and perhaps other discovery styles appear to be most potent here. It is quite obvious that the command style will abort most of the operations and will certainly limit both the dimensions of the learning process and the insights into the structure of the subject matter.

To conclude, there is a need to examine the intricacies involved in a systematic search for integration of a style of teaching with subject matter. It is the task of a profession, undergoing a period of self-examination, to study the role of teaching styles in shaping and defining the very structure of the discipline itself.

# On Understanding Mosston, Circa 1967

**LAWRENCE F. LOCKE**
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There is some ambiguity in the role of the reactor. The reactor may be forced into a role which lacks "authenticity." The one advantage is the fact that the absence of a clear definition of role invites the reactor to invent his own model for response. The preceding paper seems to call for a response that is both interpretive, in the sense of translating some of its content, and critical, in the sense of indicating elements that require closer examination.

I think that it is impossible to make any real sense out of what Mosston has presented, unless you know a great deal more than is written here about both the man and his ideas. The author and his notions about physical education are now far too big (and perhaps too unruly) to be consumed in polite, small bites. To be more specific, I doubt that the present paper will mean much unless you have had access to Mosston and his ideas through his new book, *Teaching Physical Education: From Command to Discovery* (Charles E. Merrill Books, Inc., 1966).

There is a problem encountered when dealing with a man who is sequentially developing and expanding a line of thought, and chooses to do so in public. Increasingly, he has to assume that his audience already knows what he thought about last year and the year before that. He must assume that they heard last year's speeches, read last year's papers, and read last year's books. The man who gives the same speech and rewrites essentially the same book over an entire professional lifetime does not face this problem because everyone knows what he said last year. In the case of a man groping his way along a corridor of ideas—it is sometimes difficult to understand him because he is always becoming something else.

Given my privilege as a reactor to provide frank opinion, let me say that I am glad I read his book because it seems worth knowing where he was last year so that I can make sense out of this year's paper. Lest you think that I have transgressed the bounds of good taste and plugged a commercial item—his book—let me be more explicit: I *am* plugging his book, but I think it is important for you to understand why. I am recommending the book because I think that it is professionally significant, genuinely new, and gracefully written. I am not plugging it because I agree with it, in the sense of viewing education in the same way that Mosston does, or because he is a personal friend.

There is an instructive apocryphal story about Mosston. After his first book, *Developmental Movement*, was finished, his publishers sent him some reviews. These consisted mostly of the kind that "little, old ladies" write. The reviews glowed with adjectives, such as "stimulating," "important," "exciting," and "incisive." He sent the reviews back to his astounded publisher with a warm note, requesting that they not bother to send any more because, whether they were nice or not, the kind reviewers didn't really have any idea what he was talking about. Now, before you chalk him up as an ingrate, let me remind you of T. S. Eliot's famous remark that the grestest human treason of all is to let someone do the right thing for the wrong reason. That phrase has survived because it is true. It gets to the meat of the human condition. Mosston may have needed the reinforcement of praise very badly, but he understood the terrible treason of accepting it for the wrong reason.

It probably doesn't make any real difference whether you find Mosston's book, or the present paper, to be pretentious, inaccurate and, thus, irrelevant—or penetrating, exciting and, thus, useful. It doesn't make any real difference so long as you do so for the right reason. The only right reason I can think of is having understood what he is trying to say, and then passing your judgment upon it. To make your judgment on secondhand versions of what others think Mosston is saying, or isolated fragments of his thought such as the paper we heard today, is to leave you in the position of arriving at a conclusion about the man and his ideas that may do both of you great injustice.

I want to share with you my understanding of what Mosston is talking about. By translating his words into my own language, perhaps we can place this paper in a broader and more intelligible framework.

Mosston has made the hardly original observation that there are things called educational goals. These are the behaviors which we hope to see displayed by our students when they leave our classes and become adults. Such abstractions are intentions that we have drawn up in our heads, and thus they often seem to lack any kind of immediacy or reality. At the opposite extreme are the children we face day by day in our classes—yelling, sweating, hitting each other and sometimes learning. They are almost oppressively immediate and real. Between the children on the one hand and the goals on the other hand lies the subject matter of physical education. As a Springfield College graduate, I still tend to think of this subject matter in terms of the sports and games that are used as a vehicle to project children toward educational goals. Dr. Fraleigh's earlier paper indicates that other men hold a different view.

This simplistic three-part model (learning—content—objectives) is complicated by the fact that some of us believe that the content is also, at least in part, an objective—but that is another story for another day. More crucial to the present discussion is the fact that Mosston also has observed that teaching methods link learners to subject matter. In itself, this too is hardly original. The significant and creative observation is that not only do teaching methods facilitate, or fail to facilitate, the process of learning, but that teaching methods have *a direct influence*, in themselves, upon the child's progress toward the educational goals we have selected. In brief, certain methods of teaching lead to certain kinds of learning, and these, in turn, have a direct bearing upon the overall behavioral change we see in the child. Teaching methods are a medium of transmission, and *the medium is always a message*. This latter point is not entirely unique in the literature of education, although it is a point only rarely made in the dreary physical education literature concerning teaching methods.

Mosston has observed that we have written and thought a great deal about our goals (philosophy), and the content of physical education (program), and the way in which children learn motor skills (motor learning). Consequently, Mosston decided to apply himself to the one area to which we have given rather little attention—teaching methods. He has thought very deeply about that bridge lying between children and subject matter. Logically, with care and painstaking detail, he has dissected the act of teaching motor skills. You can read the results of this process for yourself. The end result of his analysis was a sequence of organically related styles of teaching. These are the possible behavioral patterns that are the alternatives when we make our teaching decisions. Teachers do make their decisions in terms of one style or another style. At that instant they unleash consequences both for the degree to which the learning of subject matter is facilitated and the degree to which the act of teaching propels the child toward our broad behavioral goals.

Because his book and much of his previous work has been devoted to the anatomy of styles, he has only alluded peripherally to the business of choosing particular styles for particular purposes. How does one decide what style is appropriate under any given set of conditions? I am sure you can guess the factors that would probably enter in. There would be the teacher and his personality, training, and experience. There would be the student and his expectations and his capacities. There would be the environment—both the physical environment of the gymnasium and field, and the broader cultural environment with all of its powerful influences upon educational matters. Finally, there would be the subject matter itself, including all of the relevant elements within the structure of the skill.

The present paper looks at subject matter as a determining influence in teaching style. How does subject matter help us to logically arrive at choices among various styles of teaching? In a sense, this is a complicated question because it presumes some kind of taxonomy with which to divide a skill into its relevant elements.

This seems to be the least interesting and the least worthy of the possible questions to which Mosston could have given his attention. It seems to me that the other variables—teaching, students, and environments—need dissection much more urgently than the question of subject matter. Subject matter and its structure is a popular topic in education right now because of the influence of men like Bruner and Ausubel. In physical education, this is doubly true because of the relationship of subject matter to the broader question of our status as a discipline.

Let me suggest some tasks in Mosston's corridor of ideas that seem to me to be much more relevant and important than the task to which his paper was directed. Mosston has shown relationships between a variety of observations about teaching and learning behavior. He has created a framework for understanding teaching. It permits a teacher to predict events within the teaching act, and perhaps to control it. In others words, he has, in point of fact, constructed a theory or at least a theoretical model.

A good theory must do much more than simply make sense out of the data from which it was spawned. It must make sense out of other data. Indeed, it must predict the existence of other data; events that might first appear discrepant must be accounted for within the confines of a good theory.

Theories that are not thoroughly enough elaborated and exploited to account for events that are seemingly incongenial to their assumptions are dangerously vulnerable. To be more specific, it seems to me that Mosston's model *has not been elaborated so as to help us understand why some teachers cannot use certain styles, or why some students don't learn well under certain styles, or why some environments limit the available choices of style.* Each of these are inevitable encounters for anyone who attempts to think and work within the paradigm which Mosston has designed. Unless the theory is publicly elaborated so as to make sense out of what otherwise must be regarded as exceptions to the rule, we run the real danger that the theory will not be given serious attention, simply because it was not made as competent as it could have been.

A related criticism is that Mosston, from our point of view, has engaged in what I like to call "data-free theorizing." His theory lacks the guts of empirically derived evidence. He has three defenses against this accusation. First, he has his own personal data: the thousands of children that he has taught and the hundreds of teachers that he has worked with. The difficulty here is that this kind of data is not easily communicable in any form that has standing in the court of scholarly judgment. A second defense is the fact that other men with concerns in other subject matter areas have produced some data that obliquely support some of the assumptions used by Mosston. For example, Bruner's newest book concerning cognitive growth is strongly suggestive, though not decisive, in this regard. A third defense is the fact that there is always a stage in our thinking where data-free theorizing is legitimate and necessary. The difficulty here is that I suspect Mosston is now well past the point at which he can remain aloof from empirical questions.

What I am suggesting is that the fun is over, and that *it is now time for the work to begin.* If Mosston thinks that the years of effort he has put into his book were work and not fun, he then confuses the problems of writing and teaching (which, indeed, are work) with model building, which, for a man of his ability and taste, must always be a pleasure.

We must now look at the spectrum of teaching styles and look for questions to ask that are amenable to empirical answers. We must now permit the theory to objectively display the way in which it can predict, control, and explain. For example, Mosston says that some styles engage the student's cognitive apparatus in the process of learning and thus leave the student different because of this encounter. The theory makes clear enough *why we might expect this* to be so, but, of course, remains silent as to whether or not in fact it is so. We can never know about cognition directly because, like learning itself, it is only an inference. You never can unscrew the top of a learner's head, and look in to see learning and thinking taking place. The usual technique is to look at subsequent behavior and make assumptions about what and how the student learned.

In more specific terms, I would like to know exactly *what* particular students can retrieve and display in their behavior after an experience of learning volleyball through the teaching style called guided discovery that other particular students cannot retrieve and display after learning volleyball through the command style. If the theory proposes that certain behavioral events should be observed, then let us get busy and find out, indeed, whether they are or not. If things turn out as the theory predicts they will, we then have given the breath of life to what was no more than an inert skeleton. Empirical data are the blood and sinew of our speculation.

Let me close with a short story out of my own immediate past experience. On the way to San Diego, I was sitting in a United Airlines jet mainliner—in the lounge, and alone in the afternoon sun. I had been rereading *From Command to Discovery*, and I had put it down in the seat next to me, face up. I was looking out of the window and thinking of my task as a reactor, when the stewardess came in. She was a young, flimsy thing, about twenty-five; she saw the title of the book and said brightly, "Oh! Are you going to be a gym teacher?" (Having a beard always makes one look younger than one really is.) I said, "Well, yes, you might say so." She shook her head and looked serious and said: "That's too bad. You know, that's the most awful thing about college—those two years they make you take gym." Then she smiled and, with a little thrusting gesture, said, "But I did learn how to fence."

I won't belabor the moral of this little story. I think we have a good subject matter. I never feel the need to apologize for teaching sports and games. However, too often, something does go wrong and our colleges do produce results like my little stewardess. These are adults who clearly could have loved movement, but who learned to hate gym. Why does this happen? It seems probable to me that it has something to do with our style of teaching. And that is why I find Mosston not only personally relevant, but so relevant to the concerns of NCPEAM as well.

Whether you agree or not with what Mosston has to say, please do so for the right reason. Don't take my second hand account, nor that of anyone else. Read his work—understand it—and make your own nontreasonous judgment.

# A New and Hard Look at College Physical Education Programs

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The traditional rallying cry of those with high aspirations, seeking ever higher achievements, was "Excelsior." In higher education at the moment, and certainly in physical education, the battle cry now seems to be "Change." If there is one thing certain in this pragmatic society of ours, it is the constancy of change. This truth is apparent in all phases of our lives—government, economics, social structure, and, of course, education. It affects us at all levels and is equally true for youth, middle age, and adults. It is as true for college education as it is for elementary education. In a randomly selected sample of fifty-eight articles on education, eighteen of the articles stressed change. It is obvious to most of us that this is as true for college physical education as it is for all other phases of college education.

It is not only important for us to recognize the existence of change, but it is also essential that we recognize the directions in which changes are occurring. Education, and physical education, must not only keep pace with the changes, but must anticipate changes and prepare citizens for a new life in a new society. Education has a responsibility to provide opportunities for the development of intelligent citizenship. Education has the responsibility for reflecting changes in knowledge, value emphasis, societal attitudes, and individual responsibilities. With this in mind, it is necessary to take a new and hard look at college physical education programs.

William F. Brazziel, director of general education at Virginia State College at Norfolk, wrote in the summer of 1966: "Who would have thought in years gone by . . . that archery, tennis, and community health, scoffed at in the past as beneath the ken of solid academics, would come to be viewed more and more as experiences necessary for the new leisure and to provide leadership for helping communities where poverty and poor health conditions still grip a third of our population." This statement not only indicates that changes are taking place in college education, but it also implies that the direction of some of these changes is toward greater objective relevance of higher education to contemporary needs. Is college physical education keeping up with the world of changes? Is it changing in compatible directions? Is college physical education relevant to contemporary needs? Does it produce the changes within individuals which we have established as objectives of our programs?

The colleges and universities of the country, and the physical education programs which they organize and support, face a variety of changing ideas. In the first place, in spite of the generally accepted pragmatic view of education, there is a renewed interest and emphasis in the liberal arts in higher education. Partly in contrast with that shift, there is secondarily an increasing tendency to pass on to the student a greater responsibility for the determination of his own educational goals and educational programs. A third shift, arising from the greater student assumption of responsibility, is the need within the colleges and universities for a greater flexibility of program to meet the students' self-defined needs. Next, rapidly increasing stores of knowledge, both scientific and sociological, create new emphases in the curricular content of educational programs. Trends in the organization of society increase the need for new competencies and talents for individually directed self re-creation and self-realization. Finally, in the face of all these changes, there continues the university responsibility for providing quality instruction in quality programs.

Each of the six trends in education requires some closer examination as far as physical education is concerned. The first of these—the renewed interest and emphasis in the liberal arts—reflects a somewhat new and different interpretation of the term liberal. The liberal arts at one time meant those studies which led to freedom from the bonds of ignorance, those studies which were actually liberating. The term liberal now seems to mean free, flexible, nonrestrictive. It is a liberal-ness more of the political nature than the educational. As far as physical education is concerned, it means that our basic instruction programs must offer a variety of paths to the goals which we have set for them. It means a reduction in requirements as far as specificity of courses or skills is concerned, with more options appropriate to reaching certain goals. I think that it still means, also, that physical education must be liberating in the sense that the program does develop certain specific physical competencies and activities knowledges. It should be liberating in the sense that it provides students with skills which can be useful and with understandings of sports and skills which lead to a better comprehension of that segment of our culture which is related to sports.

The second trend relates to the increasing tendency for students to be given the right of self-determination in education. The student is expected to evaluate his own strengths and weaknesses and to design education programs which will, hopefully, lead to his own maximum development. In physical education the implication is that there must be sufficient basic instruction in a variety of activities to serve as a foundation from which such self-determination can be intelligently made. It also means that there must be a wide variety of activities available to the students to enable them to reach levels of excellence in certain selected activities.

The third change is very closely related to the second. If the student is to be given the responsibility for self-determination, the lock-step curriculum of the past must become obsolete. The college must provide a variety of routes toward the goal of self-realization. Physical education programs must adjust to this by providing basic and elementary instruction in some activities; opportunities for advancement in skill to the level of expertness; and participation (as a part of physical education) in higher level activities customarily organized as intramural athletics, athletic clubs, and intercollegiate teams. It is necessary that we recognize the need for this flexibility and the need for students to determine some of their own goals. The student body now exists as a "fourth estate"—involved in governance, housing, extra-class activities, and recreation as related to their lives on the college or university campus. About one-third of the articles on new developments in colleges and universities are currently devoted to student personnel problems. The change exists now and must be dealt with.

The fourth trend is the rapidly increasing store of knowledge. This affects the entire college or university program and does not leave physical education untouched. Increased understanding of the function of the human body requires us to examine our physical education programs to see whether or not we actually do meet certain physiological objectives, provide both interesting and safe activities, and contribute to the overall physical development of the students. Knowing about how much exercise is required to build increments of strength or fitness, do we actually organize programs that contribute positively to this development? And from the sociological viewpoint, are the skills we teach and the activities we organize really relevant to the social situation today? A new emphasis in lifetime sports is developing, with a decreasing emphasis in college level instruction in highly organized team sports. We must scrutinize closely the degree to which the programs we offer are compatible with the physiological and psychological demands which society places upon persons and the opportunities society provides for people to recreate.

The fifth trend is the increasing realization that education must exhibit greater relevance to contemporary needs. If educated individuals are to strive for goals of full self-realization, opportunities must be provided in colleges and universities for them to achieve superior physical development and physical fitness. Conceivably, physical education requirements should be in terms of standards of development rather than in hours of participation. It must also provide opportunities for students to achieve a level of expertness in perhaps two or three sport activities which may be continued into adult life. It should also recognize the fact that the population in general devotes approximately one-fifth of its leisure time to participation in sports, individual and family recreation, and spectator participation in athletic events. The educated person in today's society should have a good understanding of what is going on in the field or on the television screen as he watches professional football, NCAA football, televised ice hockey, the world series, and other sports spectaculars.

Finally, as a sixth point, there is the continuation of a university responsibility. Though I have viewed the changes with some excitement, I may seem to be dragging my heels when I express the feeling that adequate programs of physical education can adjust to these changes only when the university meets its responsibility for providing quality instruction. Many physical education basic instruction programs across the country have continually reinforced the feeling that the success of the programs has been due in large part to the fact that instruction has been professional, experienced, and thorough. The skills and understandings of physical education and sport activities should receive attention from quality instructors just as much as the basic skills in languages and sciences. It is a questionable practice to relegate instruction in physical education skills to inexperienced and incompletely educated graduate assistants. While the youth and energy of the younger teachers are important, the overall responsibility for instruction and the development of high quality programs should be in the hands of well-educated, mature, and experienced instructors.

Though the call to arms may be "Excelsior" or "Change," our aspirations must be high. Change there will be, and change we will. We may never reach the point when we can cap off the process with the cry of "Eureka," but we will be well on the way toward that goal if we constantly analyze the trends and scrutinize our programs critically to determine whether or not they actually are achieving the goals which we set for ourselves.

# A College Physical Education Program that Is Changing . . . Fast!!

**WESLEY K. RUFF**
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Ten years ago Stanford's academic council dropped the two-year physical education requirement and substituted in its place a six quarter "group activity" requirement. Students are now required to participate in physical education only two quarters of the six, and grade point credit is not to be given for completion of this requirement. However, if a student wishes to participate in physical education beyond the six units of group activity required, up to twelve grade point credits may be earned, one for each quarter of physical education taken.

Administration of the basic policy has been left to the chairman of the General Studies Committee, and the Department of Physical Education has been allowed considerable freedom within the framework of the established policy. The Department of Physical Education has used the basic policy as a challenge. The students must sample our program and we must see to it that the sample is good or they won't be back for more. All of our courses are elective and we try to accommodate different skill levels and adjust our offerings to demonstrated interests.

The faculty policy with regard to defining group activity has been extended to include almost any constructive group endeavor. Clubs involving physical activity that might not be feasible for the Department of Physical Education to support or conduct have been organized by students, conducted by students, and with the blessing of a faculty sponsor who verifies their participation, students are credited with fulfilling a quarter of group activity.

Many of these clubs are physical-social, like the ski club, cycling, sailing, karati, and the folk dance club. However, they are not administered through the Department of Physical Education and Athletics, but through the Associated Students. The Department of Physical Education and Athletics provides advice, assistance, and facilities, but the scope of the student interest has completely outrun the Department's financial resources. Because of this potential dollar burden, the Department adopted the policy of no intercollegiate sport expansion and relinquished supervision of new activities undertaken by competitive clubs to the dean of students. The Dean's Office has been assured some funds for this purpose.

Perhaps more should be said about the financial problem. When students conduct the activity, they expect and are permitted to utilize their own transportation (certain assurances must be guaranteed the university on behalf of student safety). They organize themselves and either provide their own equipment or solicit interested businessmen for funds. Student enthusiasm is high and they organize themselves to provide for publicity, transportation, equipment, and finances. On the other hand, when the department takes over a sport activity, the students let the coach and the department do it all. The departmental policy on first class travel and lodging is a significant financial factor alone, not to mention equipment and the salaries of additional special skills personnel. The number of new activities that interest our students is so great that the decision to take this course has not been questioned. A possible alternative might be a new branch within the Department of Physical Education with a fresh look at appropriate policies, plus university financial support.

Meanwhile, other interest pressures have become apparent. Within the Department of Physical Education, scuba diving has been included in our instructional curriculum, as has judo. The weight training facilities also had to be expanded to accommodate interest in this vigorous activity. In order for the department to attend to the number of interested students and the scope of interests, a further division of the department is beginning to develop. We have begun to offer courses on a group activity basis just for those who wish to play and do not desire instruction or grade point credit. These classes are supervised by teaching assistants, and instruction is available, but instruction is not the focus of the class. The development is fairly recent and represents a potential division of courses into group activity and grade point credit courses, with credit being given primarily when the course is instructional.

Several studies have been conducted during this period, some formal and some informal, to discover the effectiveness of student leadership in physical education classes when professional supervision and direction are provided. These studies have revealed an improvement in learning and interest when student leadership of small groups is utilized. This has encouraged the Department of Physical Education to attempt other kinds of student-organized activities. The latest innovation is the student-led "activity club" idea. This conception was experimentally studied last year by permitting one freshman dormitory the activity club privilege. In this program, students who wish to play golf together or tennis, lift weights, cycle, play handball, etc. can form a small club for five to ten men and elect a leader. The leader must keep attendance, schedule facilities, provide instruction, and leadership. He and the group are assigned to a professional instructor who visits them on a schedule about every third meeting (three club groups constitute one normal class with respect to teaching load). Facilities used are often those near student dormitories and need not be those under the control of the Department of Physical Education.

Leaders may be called to meetings for leadership instruction and/or policy instructions, plus meetings to provide feedback to the Department. With these innovations in effect, we feel our program has a new vitality, and our students seem to feel more a part of it, as indeed they are.

As mentioned above, last year we attempted to evaluate several aspects of this program. In the first effort, we concentrated on three facets: (1) physical fitness, (2) the opinions of students regarding the new program, and (3) the use of a standard attitude scale. For physical fitness, we used a 600 yard run (square course), pull-ups, sit-ups on the inclined board, and an agility run (Illinois). The results indicated that our freshmen come to us in exceptionally good condition and that the experimental program maintains and slightly improves their performance.

The opinion questionnaire indicated that the students thought the new scheme was great! Among the recommendations made were (a) that professional help be available to provide initial instruction and organizational assistance and (b) that leadership be given strategic help for the sake of stimulus, variety, and interest. On the other hand, there was the opinion that the professional instructors were more demanding in the regular physical education program and that consequently students improved more dramatically. The students showed a keen awareness of the difference between the two programs, that is, of *instruction vs participation*. The attitude scale revealed remarkably favorable attitudes toward physical activity. The experimental program seemed to help maintain this favorable situation.

We feel that the greatest significance of this experiment was that our departmental communication with the experimental group was improved in a dramatic way. The control group participated in our regular program and was nowhere nearly as cooperative at the end of their freshman year as the experimental groups with whom we had maintained a closer face-to-face association.

We have often asked ourselves, "Where is this current carrying us?" "What will happen to the discipline traditionally associated with sports instruction?" "What will happen when the student doesn't have to take anything he doesn't want to take?" "What will happen to the professional physical education instructor?" "What about liability?"

Those who love sports and are athletes have always been able to select their activity. A high school athlete often hates a physical education class because he isn't doing what he likes to do. Again, athletes accept many forms of discipline and a great deal of hard work but they are doing it in a sport that they like. Once an activity is selected, the discipline of the activity is still there and it is readily accepted.

The liability problem can probably be solved by adequate insurance, care of facilities, and adhering to proper emergency procedures. As to the role of the professional, it appears that he has an opportunity to assume a more professional role than ever. Our role has a new dimension—one of teaching students to lead and one of serving as professional consultants to small groups. The same number of students are served but they are served what they like. Our programs are expanded in scope and our professional role may actually be enhanced.

# Meeting College Student Needs Through an Integrated Program of Physical Activity

**JOHN A. FRIEDRICH**
Duke University

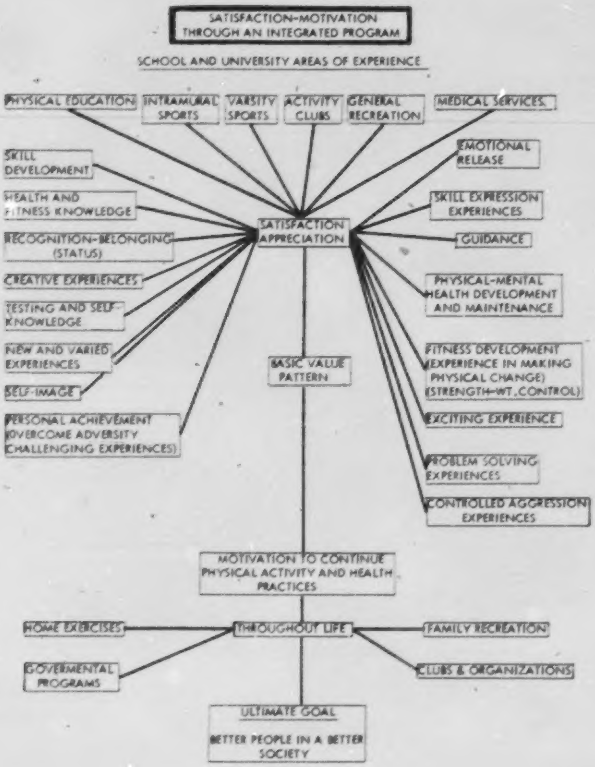
Jesse Feiring Williams once said: "One cannot build up in school days a store of health that will last for the rest of life. Habituation to physical activity is one of the goals that should be set not only for a college man and woman, but for all persons in the formative periods of school life." Unfortunately, the existing attitude which tends to govern many of our programs implies that our youth are unfit and that the sole job of physical education is to make them fit. A broader concept is needed. A fuller understanding of the role of physical education in the total structure of education is essential if we are to maintain our proper place in American society.

One of the primary aims of the physical education program at Duke University is to meet the present and future needs of our students through an effective integrated program of physical activity. It is our hope that through being involved in a top quality, meaningful program students will be motivated to continue to be physically active and follow reasonable health practices not only throughout their college years but throughout their lives, to the end that they will be better individuals in a better society. It is well recognized that physical education alone cannot achieve this purpose; however, an integrated program involving health and fitness information, physical education, intramurals, varsity sports, activity clubs, and general recreation opportunities can aid immeasurably in achieving this goal more adequately.

We believe that the attitudes of our students toward physical activity is of utmost importance and their self-image in reference to activity is a significant factor governing their motivation, learning, and behavior. Improving their self-image is one of the goals we hope to achieve. We realize that we can sell only those things for which others feel a need or a want. In order to really "sell" physical activity as a way of life, it is essential to appeal to the existing needs and interest of students and also to create an awareness in them of the need for regular physical activity. By combining both "knowledge" and "feeling" in the total program a more effective job can be done. By better identifying the function of physical activity, as indicated by student needs, a more realistic and logical program can be provided.

## Satisfaction-Motivation

In order to influence student attitudes, it is vital that students have a meaningful and satisfying experience through a good physical activity program, and that they have an understanding of the basic philosophy and objectives of the program. Our effectiveness in communicating with students will determine our results. Only to the extent that students obtain real satisfaction from activities will they be motivated to continue such activities. This satisfaction must be based upon actual experience as well as understandings and appreciations of basic health and fitness concepts. Although fear and guilt are often strong motivational forces, it seems much more reasonable to use positive reinforcement as our primary means for changing behavior. The following diagram illustrates the concept of "motivation through satisfying experiences":


SATISFACTION-MOTIVATION THROUGH AN INTEGRATED PROGRAM
SCHOOL AND UNIVERSITY AREAS OF EXPERIENCE
PHYSICAL EDUCATION
INTRAMURAL SPORTS
VARSITY SPORTS
ACTIVITY CLUBS
GENERAL RECREATION
MEDICAL SERVICES
SKILL DEVELOPMENT
HEALTH AND FITNESS KNOWLEDGE
RECOGNITION-BELONGING (STATUS)
CREATIVE EXPERIENCES
TESTING AND SELF-KNOWLEDGE
NEW AND VARIED EXPERIENCES
SELF-IMAGE
PERSONAL ACHIEVEMENT (OVERCOME ADVERSITY CHALLENGING EXPERIENCES)
SATISFACTION APPRECIATION
EMOTIONAL RELEASE
SKILL EXPRESSION EXPERIENCES
GUIDANCE
PHYSICAL-MENTAL HEALTH DEVELOPMENT AND MAINTENANCE
FITNESS DEVELOPMENT (EXPERIENCE IN MAKING PHYSICAL CHANGE) (STRENGTH-WT. CONTROL)
EXCITING EXPERIENCE
PROBLEM SOLVING EXPERIENCES
CONTROLLED AGGRESSION EXPERIENCES
BASIC VALUE PATTERN
MOTIVATION TO CONTINUE PHYSICAL ACTIVITY AND HEALTH PRACTICES
HOME EXERCISES
THROUGHOUT LIFE
FAMILY RECREATION
GOVERMENTAL PROGRAMS
CLUBS & ORGANIZATIONS
ULTIMATE GOAL
BETTER PEOPLE IN A BETTER SOCIETY

In the foregoing chart an attempt has been made to list some of the motivational factors relating to physical activity. It should be emphasized that some people tend to be primarily motivated by one or two factors whereas others may be actually motivated by a combination of many factors. Each individual is different. His background is varied and the most effective means of motivation for him may vary from that of another. By attempting to bring together all of the possible motivating factors as they relate to the total program, the probability of changing attitudes and behavior can be significantly enhanced.

The ultimate concept of developing total fitness and organic unity for complete and effective living must be an on-going process ranging throughout the various educational levels. Ideally the college or university program should follow a pattern of progressive development based upon a well-established foundation. Until such a preparatory pattern has been realized our present "semiremedial" approach will probably be necessary in our institutions of higher education.

### Foundations of Physical Activity

In order to provide an adequate foundation for our total program, a basic course in "Foundations of Physical Activity" has been established for all freshmen. Essentially this program involves health and fitness knowledge and problem solving experiences, health and fitness testing, development of competence and skills in selected activities, development and maintenance of fitness, orientation to a variety of activities, and health and activity guidance. Specific objectives of this program involve the following:

### Objectives of Foundations of Physical Activity Program

I. To increase student understanding of the how and why of physical activity
  A. Through readings: student physical education manual (Duke University) and other materials. Subject matter:
    1. The role of physical education in higher education
    2. Physical activity—historical basis—cultural implications
    3. Physical Activity and—
      Body build & body image
      Conditioning
      Endurance
      Body mechanical posture
      Exercise and work efficiency
      Weight control
      Athletics
      Heart and circulation
      Fatigue and recovery
      Tension
      Relaxation
  B. Through supplementary group presentations: lectures, slides, films, etc. Subject matter:
    1. Cultural factors relating to health and fitness
    2. Exercise and body systems
    3. Cardio-respiratory fitness
    4. Kinesiology, posture, and body mechanics
    5. Training techniques
    6. Accident prevention, first aid, and safety
    7. Tension, relaxation, and activity
  C. Through problem solving experiences
II. To provide students with a more realistic self-image
  A. Through physical proficiency tests
  B. Through understanding of body type and potential
  C. Through recognition of their limitation and a realistic attitude toward eventual goals

III. To provide a special program (adapted physical education) for students who are physically handicapped or limited.

IV. To provide a special program (individual development) for those students who—
   A. Lack strength, agility, and coordination
   B. Need help in weight control (overweight or underweight)
   C. Need postural help
   D. Are poorly adapted psychologically for regular physical education

V. To provide a beginning swimming program for those students who cannot swim.

VI. To provide (through participation) an orientation to a variety of physical activities so that students can be prepared to make more intelligent activity selections as well as develop a broader knowledge and appreciation of sports and recreation. Activities included:

Archery
Badminton
Tennis
Team games
Fencing
Gymnastics
Handball-paddleball
Golf
Swimming
Training techniques
Wrestling
Volleyball
Relaxation techniques

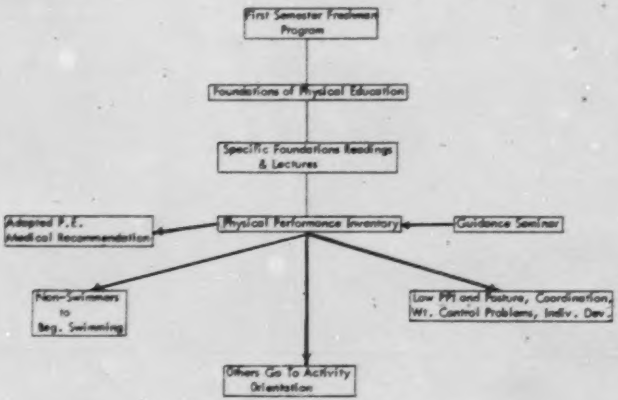
VII. To provide problem solving experiences to enable students to better understand the "how and why of physical activity."

VIII. To introduce students to
   A. Policies and procedures
   B. Facilities
   C. Program opportunities
      1. Physical Education
      2. Health Education
      3. Intramurals
      4. Varsity Sports
      5. Recreation Clubs
      6. Free Play Opportunities

IX. To guide each student into a personalized program designed to meet his present and future needs.

## Foundations Program Structure

The organizational structure for the foundations of physical activity program is illustrated in the following diagram.


First Semester Freshman Program
Foundations of Physical Education
Specific Foundations Readings & Lectures
Physical Performance Inventory
Guidance Seminar
Adapted P.E. Medical Recommendation
Non-Swimmers to Beg. Swimming
Low PPI and Posture, Coordination, Wt. Control Problems, Indiv. Dev.
Others Go To Activity Orientation

The orientation phase of the program has been established to give students an opportunity to become acquainted with and learn to appreciate a variety of activities, thus providing a basis for more intelligent future guidance and activity selection.

**Physical Performance Inventory Form**

DUKE UNIVERSITY
DEPARTMENT OF HEALTH & PHYSICAL EDUCATION
PHYSICAL PROFICIENCY PROFILE

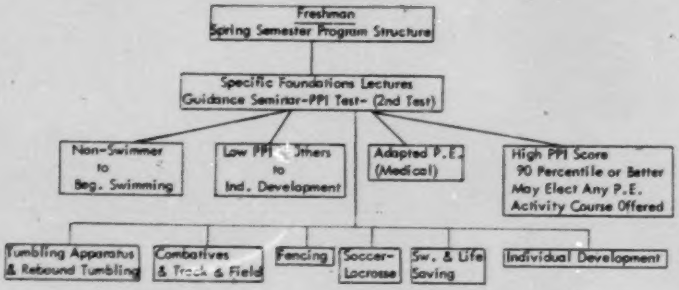
NAME______________________________
Last First Middle
SECTION____________________________
HT.________WT.________AGE________
PPI SCORE__________________________
SW. CLASS__________________________
POST ANAL__________________________
Sat. Unsat.
WT. ANAL___________________________
Sat. Unsat.
BODY TYPE__________________________
Endo Meso Ecto

|  | Test I |  | Test II |  |
|---|---|---|---|---|
|  | Raw | Percentile | Raw | Percentile |
| Vertical Jump |  |  |  |  |
| Agility Run |  |  |  |  |
| Pull-up |  |  |  |  |
| Sit-up |  |  |  |  |
| Trunk Flexion |  |  |  |  |
| Trunk Extension |  |  |  |  |
| Dom Grip |  |  |  |  |
| Non-Dom Grip |  |  |  |  |
| Abdominal Fat |  |  |  |  |
| 3′ Step Test |  |  |  |  |

| Percentile | Vert. Jump | Ag. Run | Pull-up | Sit-up | Trunk Flex. | Trunk Ext. | Dom Grip | Non-Dom Grip | Abdom. Fat | 3′ Step Test |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 32.5 | 15.0 | 20 | 99 | 11 | 32.5 | 200lb | 200 | 2 | 22 |
| 95 | 27 | 16.0 | 14 | 61 | 9.5 | 29 | 161 | 146 | 4 | 38 |
| 90 | 26 | 16.2 | 12 | 57 | 9 | 27 | 153 | 140 | 5 | 42 |
| 85 | 25 | 16.4 | 11 | 51 | 8.5 | 26.5 | 148 | 133 | 6 | 45 |
| 80 | 24.5 | 16.6 | 10 | 50 | 8 | 26 | 141 | 130 | 7 | 48 |
| 75 | 24 | 16.8 | 10 | 49 | 7.5 | 25 | 140 | 125 | 7 | 50 |
| 70 | 24 | 16.9 | 9 | 45 | 7 | 25 | 137 | 122 | 8 | 52 |
| 65 | 23.5 | 16.9 | 8 | 43 | 7 | 24.5 | 134 | 121 | 8 | 53 |
| 60 | 23 | 17.1 | 8 | 42 | 6.5 | 24 | 131 | 120 | 9 | 55 |
| 55 | 22 | 17.2 | 7 | 41 | 6.5 | 23 | 130 | 116 | 10 | 56 |
| 50 | 22 | 17.2 | 7 | 40 | 6 | 23 | 126 | 113 | 10 | 58 |
| 45 | 22 | 17.4 | 7 | 39 | 6 | 22.5 | 122 | 111 | 11 | 58 |
| 40 | 22 | 17.5 | 6 | 37 | 5.5 | 22 | 121 | 110 | 12 | 60 |
| 35 | 21.5 | 17.7 | 6 | 36 | 5.5 | 21.5 | 120 | 109 | 13 | 60 |
| 30 | 21 | 17.9 | 5 | 35 | 5 | 21 | 119 | 104 | 14 | 62 |
| 25 | 20 | 18.0 | 5 | 33 | 5 | 20.5 | 115 | 101 | 16 | 63 |
| 20 | 20 | 18.3 | 4 | 32 | 4.5 | 20 | 111 | 100 | 18 | 65 |
| 15 | 19.5 | 18.4 | 3 | 30 | 4 | 19.5 | 110 | 97 | 20 | 67 |
| 10 | 18 | 18.8 | 2 | 28 | 3 | 18 | 106 | 92 | 22 | 69 |
| 5 | 17 | 19.5 | 1 | 24 | 2 | 16.5 | 100 | 90 | 27 | 72 |
| 0 | 11 | 29.6 | 0 | 2 | -8 | 11 | 45 | 25 | 45 | 90 |

Students who score below the 35 percentile for the average of their scores on the vertical jump, agility run, pull-ups, and sit-ups are channeled into the individual development program. Others are directed into activities as indicated.

During the first semester individualized guidance is given to aid students in intelligent selection of future activities. It is recognized that no one activity is "holy" in the sense that everyone must take it, but rather various activities can meet similar objectives. In this reference, flexibility in course selection is given emphasis.


Freshman
Spring Semester Program Structure
Specific Foundations Lectures
Guidance Seminar-PPI Test- (2nd Test)
Non-Swimmer to Beg. Swimming
Low PPI & Others to Ind. Development
Adapted P.E. (Medical)
High PPI Score 90 Percentile or Better May Elect Any P.E. Activity Course Offered
Tumbling Apparatus & Rebound Tumbling
Combatives & Track & Field
Fencing
Soccer-Lacrosse
Sw. & Life Saving
Individual Development

Activity selections are necessarily somewhat limited due to scheduling problems. Students are guided into those activities which can best meet their present and future needs.

## Basis for Guidance into Activities

As previously mentioned, the basic purpose of the physical education program is to improve the present health (physical, mental, social) and fitness of each student and to motivate him to want to continue to be active by showing him "why" he should stay active and helping him to learn "how" to do this through healthful, satisfying, and enjoyable physical activity. Listed below are the criteria governing the guidance of students into activities.

1. *Body Development*—Students who lack strength or are in need of body development, posture improvement, relaxation ability, and coordination will be guided into individual development classes which will aid in achieving this objective. All students are expected to develop a minimum level of physical fitness and efficiency.
2. *Weight Control*—Students who are significantly above or below desirable weight norms will be guided into individual development or other activities best adapted to aid them in weight control. Students who are underweight are encouraged to increase caloric intake and follow a progressive resistance weight program, whereas overweight students are advised to limit caloric intake and "burn up" extra calories through jogging, etc. Obese students are referred for special medical attention.
3. *Physical Disabilities*—Students who have specific handicaps or are unable to participate in regular classes will be guided into adapted physical education classes which will—.
    a. Correct any weaknesses that are correctable.
    b. Provide (for those with noncorrectable limitations) a developmental maintenance program adapted to the disability so that condition of the student may be enhanced through a desirable exercise program.
    c. Provide a program of adapted sports whereby the student may either learn a sport in the adapted physical education class or be referred to a course where this can be safely and effectively done.

4. *Swimming and Water Safety*—All students will be expected to be able to swim a minimum of 50 yards and have a knowledge of basic water safety. Students who cannot swim are guided into beginning swimming classes.

5. *Adapting to Student Needs*—The following factors are considered in recommending further courses to be taken by students:
   a. *Body Type*. Activities should be adapted to students' body types so that they can avoid injury and be given a better chance to learn to enjoy and be successful in an activity.
   b. *Interests*. Students' interests should be broadened but they should be encouraged to follow real interest areas.
   c. *Present Skills*. Students should not enter beginning classes if they know the activity. They should learn new skills and improve old skills. Emphasis is given to providing a challenging experience adapted to the students potential.
   d. *Needs* (Emotional, Social, Physical). Most courses can aid students in meeting specific emotional and social needs. Consideration is given to specific course selection if certain needs are apparent.
   e. *Carryover Values*. Students should learn activities they can and will use later.
   f. *Seasonal Activities*. Students should know activities for all seasons (indoor and outdoor activities).
   g. *Future Type of Work and Place of Residence*. Activities should be adapted to type of work student will be engaged in and where he will live.
   h. *Activity Balance*. Students who have not had team sport experience are in some cases encouraged to follow such activities. In some instances individual sports, dual sports, combatives, or dance may be recommended.

6. *Guidance for the Future*
   a. A special guidance card indicates the recommended program students should follow. Information from such cards is used to plan future course offerings. Students are classified in a manner which will allow for most effective grouping and teaching. Special IBM cards are used for this purpose. An overview of the total program opportunities is provided.
   b. Students are encouraged to participate in varsity sports, intramural sports, activity club programs, and regular free time exercise programs throughout their university careers. Special assistance is given to enable them to select areas best suited to them.
   c. Students are encouraged to continue to be physically active throughout their lives. Possibilities for becoming involved in home and community exercise and recreation programs in the future are explained to them.

## Sophomore Program

During the sophomore year students are given a choice of activities, the selection of which is based upon previous guidance procedures. Emphasis is given to learning usable, satisfying, lifetime skills which can enable them to stay active. Some of the courses are listed below:

P.E. 46 Swimming and lifesaving
51 Tumbling and apparatus
52 Badminton, handball, and squash
53 Basketball and speedball
54 Combatives and track and field
56 Advanced swimming

P.E. 57 Tennis and volleyball
58 Golf
63 Individual development
64 Fencing
70 Bowling and square dance
71 Team games and social dance

Additional health and fitness information is integrated throughout the sophomore program. Continual emphasis is given to other opportunities for activities such as intramurals, clubs, and the like so that they will continue a regular pattern of activity in their junior and senior years of college. All students are expected to set up a home exercise program which can be used to supplement their future activity participation. The department furnishes a suggested program of this type for every student to take with him and follow during the summer or during vacation periods. Students are expected to establish a pattern for future physical activity participation. Incorporated in this are intramurals, varsity sports, and clubs in which they can remain, as well as postcollege activities which they plan to continue.

### Program Enrichment

To encourage student involvement, various types of descriptive information are provided. A special sports information center has been established to provide readily available information concerning sports and health and fitness. Bulletin boards are provided with supplementary information for students. Special boards are designated for sports information, course activity information, recent research, etc. Extensive use is made of hand-out information. Racks are provided in which over fifteen different bulletins are made available. Besides department publications, pamphlets of the AMA and other sources are provided. Various visual aids are made available to students to enhance regular class learning possibilities. Motivation is encouraged through a variety of progress charts and graphs for both physical education and intramurals. Extensive testing equipment is used to assess individual and program progress. Students are asked to make use of the foregoing outside of class. An extensive system has been established for effective intramural communication.

In order to supplement the total program a variety of materials are provided. These are available to staff and students and include the following:

*Program Reference Materials*
Physical education staff manual
Intramural handbook
Physical education summarized curricula
Physical education staff foundations of physical activity manual
Student physical education handbook
Student exercise booklet
Various hand-out materials

*Our Goal: The Physically Educated Individual.*

Through an integrated program we hope to aid each student in developing into a "physically educated person." We believe that a physically educated person is one who[1] —

*Possesses Organic Health and Vigor*

1. Is in possession of a well-proportioned, functional, and efficient body, capable of broad coordinated, graceful, efficient, and intensive physical experience.
2. Has had extensive, meaningful experience in making desirable physical changes.

*Possesses skills*

3. Is adept in the performance of a variety of sports skills adaptable for all seasons of the year, to which he can turn for enjoyment, body maintenance, and regeneration during leisure hours both now and in the future.
4. Has adequate skill in first aid, safety, and survival techniques on land and water, and in the avoidance of injury related to activity.

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[1] *From Physical Education Staff Manual*, Duke University.

5. Has experience in achieving desirable physical changes through various training techniques and has skill in the proper performance of exercises, relaxation techniques, fundamental body movements, and mechanics of daily living.
6. Has skill in meeting and overcoming physical challenge and adversity.

*Possesses Knowledge and Appreciation*

7. Has a knowledge and appreciation of the historical background and the present significance of sports and physical education in our American culture and understands the associated problems related to automation, extended leisure time, and physical inactivity.
8. Has a knowledge and appreciation of various sports, rules, strategies, and skills to the end that he may effectively and enjoyably participate in such activities.
9. Has a knowledge and appreciation of the popular American sports, to the end that he may be able to enjoy them intelligently as a spectator.
10. Knows how to intelligently select physical activities which best meet his needs and knows how and why to plan for these in his daily schedule.
11. Knows how to assess his physical potential and establish and follow desirable exercise programs.
12. Has a knowledge and appreciation of proper health habits and practices, basic scientific principles of exercise and training, nutrition, diet, and weight control, proper posture and body mechanics, relaxation, sleep, rest, tension, and emotional release.
13. Has a knowledge and appreciation of physical activity as it related to the prevention of fatigue, stress, aging, degenerative diseases, poor mental health, and psychosomatic disorders.
14. Has a realistic self-image and is well acquainted with the structure, body type and basic heredity, function, growth and developmental patterns, capabilities and limitations of his body (body potential).
15. Has a knowledge and appreciation of first aid, safety, and survival techniques on land and water, as well as an understanding of how to avoid injury and pain related to activity.
16. Has developed an awareness of physical activity opportunities available while in college and later in life.

*Possesses Habits, Attitudes, and Social Responsibility*

17. Has a positive attitude toward health maintenance and is motivated (self-activated) to observe proper health habits and to continue to be regularly active and express himself through physical activity throughout his life.
18. Knows how important it is to develop physical skills as a means of discovering himself.
19. Knows how to play and how to respond spontaneously in a play situation and is interested in several areas of physical activity which give him satisfaction.
20. Knows how to express himself creatively through physical activity.
21. Has acquired reasonable skills in democratic leadership and followership and in making quick decisions.
22. Has adequate emotional stability to meet the stress and strains of modern living. Knows how to work hard in winning or losing.
23. Has a social consciousness and adaptability with respect to requirements of group living.
24. Has enhanced his ability to live with himself and others.

# Toledo's Service Health and Physical Education Program: "All or Nothing at All"

**DONALD C. STOLBERG**
**PERRY B. JOHNSON**
University of Toledo

The title of this paper, "All or Nothing at All," should certainly arouse the attention of all physical educators. We, like other educators, are aware of criticism and changing times. Most of us feel that modification of programs to achieve the common objectives of physical education is the major problem facing the profession today. Physical educators are generally in agreement with the basic objectives of physical education. However, the means of obtaining these objectives seem to produce many professional discussions, which, unfortunately, always seem to bog down under the inevitable presence of the changing needs of the maturing child and the practical needs of the adults in society.

Does the title, "All or Nothing at All," refer to the attainment of all physical education objectives, or to the development of a complete curriculum staffed by effective teachers? The "Nothing at All" portion of the title can be looked upon as being impertinent or satirically provocative. The University of Toledo required physical education program is different, but not unique. We have attempted to meet all the basic objectives of college physical education in our particular way. Whether or not we have negatively tampered with the basic objectives of physical education in our program and are, therefore, guilty of impertinence can be judged as the program is revealed. We mean to rock the boat. We mean to suggest that some programs are inadequate in content and scope, even if these programs honestly profess to have professionally acceptable objectives. We are dedicated to a more effective and justifiable college physical education program.

We are concerned about modern civilization and its effect on our lives; we are concerned, primarily, about the inactivity of adults and their inability to relax; we are concerned about the rising incidence of hypokinetic disease; we are concerned about the widespread ignorance of proper health practices; we are concerned about physical education tools that become ends in themselves. We are attempting to physically educate students. We are *not promoting* health, fitness, sports, athletics, esthetic movement, physical activity, relaxation, recreation, health knowledge, physiology of exercise, history of physical education, or spectatorism as *independent objectives*. We are, however, promoting the *integration* of these objectives and each student's orientation to them as an *individual*.

We know that being physically fit does not necessarily mean that a person is physically educated; being healthy does not necessarily mean that a person is physically educated; being active does not necessarily mean that a person is physically educated; being knowledgeable of health information does not necessarily mean that a person is physically educated; being appreciative of the dynamic aspects of movement or sports does not necessarily mean that a person is physically educated.

Being physically educated implies knowledge, techniques, and some kind of motivation. We can never be assured that the physically educated person will achieve the optimum physiological and psychological states. Other factors, which we cannot or choose not to control will determine, ultimately, the degree of fitness achievement. Early psychological conditioning and training is one factor. Family, religious, and social factors play a role. Fundamentally, we believe in imparting health- and fitness-related knowledge and in promoting activity techniques which are compatible with adult life and the personal interests of the individual. We are committed to providing activity opportunities during the student's time on the campus, but, finally, the decisions as to the type of exercise, the duration of exercise, and the intensity of exercise rest with the individual as he adjusts to life's demands.

There are three major or key concepts that are fundamental to the development of the Toledo curriculum.

1. *The individual is affected by heredity and by his environment.*

Under this first major concept, the student learns about the relationships among physical, motor, and mental potentials and how these are limited by heredity; he will get some insight into what his potential is, and will have opportunity to develop a positive attitude toward his potential and his limitations. He will develop a knowledge and understanding of how the whole man and his health and fitness are affected by his environment—for example, by air and water pollution, communicable disease, extremes in temperature and humidity, the social environment, etc.

2. *The individual deals with and can modify his environment through effective thinking and purposeful movement.*

Here the student learns how to cope with his environment effectively. This involves not only knowledge and attitudes but the skills for doing so and ranges from complete relaxation to full-blown physical activity. This also involves knowledge and understanding, for example, of principles of mechanics applied to movement and the most effective accomplishment of work tasks.

3. *The individual himself is affected by his thinking and his purposeful movement.*

Under this major concept are subsumed the objectives relating to fitness development, motor skill attainment, the esthetic values of modern dance, and many other personally valuable experiences, as well as the knowledge and attitudes crucial to a complete understanding of health and fitness.

What, then, is the Toledo program?

1. The two required freshman courses are each worth two semester hours credit, involving a total of thirty-two hours of lecture and sixty-four hours of laboratory work.

2. Health and fitness are the core of the program. The lectures present the case for and against regular exercise, and the laboratories provide for evaluation of health and fitness levels and for instruction and participation in various fitness programs. The relative unimportance of exceptional motor ability in the attainment of health-related physical fitness is also stressed. Self-evaluation and a personalized approach to individual exercise problems are vital parts of the program. It might be said that the student is encouraged to compete with himself in the important areas of health and fitness.

3. The lectures are designed to include pertinent basic health information, relationships of body systems to exercise, and related pathological implications. A 500-page thoroughly illustrated text has been prepared by four members of the faculty (*Physical Education—A Problem Solving Approach to Health and Fitness* by Johnson, Updyke, Stolberg, and Schaefer, published by Holt, Rinehart, and Winston Company).

4. Physiology, psychology, and applied mechanics are the fundamental disciplines upon which the teaching of the basic concepts of health and fitness is based.

5. The lecture phase of the first course supports the case for regular physical exercise. The circulatory, neuromuscular, respiratory, and digestive systems are examined as they relate to physical fitness, cardiovascular health, body mechanics, low back pain, energy cost, weight control, etc.

6. The laboratory phase of the first course provides an opportunity for thorough health and fitness appraisal. Various tests and measures of general health, physical fitness, motor ability, posture and mechanics, body fat, and heart function are offered. Exposure to various conditioning techniques and popular conditioning programs provides a foundation for the student to evolve his or her own individualized program. Class participation experiments (on such topics as strength, heart rate responses to exercise, center of gravity, dehydration, energy cost, effects of training and overfatness) are conducted, written up by the students, and discussed. This provides another dimension to understanding body function during exercise and related health and fitness implications.

7. The lecture phase of the second course emphasizes the psychosocial aspects of exercise, health, and fitness. The hormonal and nervous systems and the circumstances and agents that affect them are presented. Psychological "crutches," stress, tension and relaxation, fatigue and sleep, mental disease, sex and community health are discussed and interrelated.

8. The second course laboratory phase focuses on motor ability as related to recreational skills. The perceptual prerequisites of various sports are discussed, and power fundamentals of individual sports are investigated. Instruction in individual sports, self-defense, and relaxation is given. The students are exposed to many kinds of health and fitness gimmicks for personal and class evaluation purposes. Such items as isometric devices, exercise bicycles, rowing machines, vibrators, striking bags, weight resistance machines, stretching bands, balance devices, and gymnastic equipment are investigated. Class experiments include perception and reaction time, motor skill ability, power capacity, smoking, and relaxation.

9. Lectures are coeducational and are held in a large lecture classroom. Laboratory sections are limited to twenty-five students, thus permitting a personalized approach.

10. The course grade is determined on the basis of the laboratory experiments, and lecture and laboratory examinations. Each phase of the program, lecture, and laboratory contributes 50 percent of the final course grade. A failure in either phase results in failing the course. The laboratory instructor is responsible for the final grading. Fitness levels and motor ability are not taken into consideration. However, the nature of the personalized contact with the student and the subjective content of the laboratory final examination allow the laboratory instructor to finalize a fair grade based on basic knowledge of course material, applied knowledge, and interpretive ability.

The University of Toledo required physical education program measures its success by the positive reception to it by serious college students, by the unsolicited support of faculty members from all colleges in the university, and by the generous backing from an approving administration. The program's acceptance and success has led directly to the approval of a long-needed new building, which has been designed around the philosophy of the program.

The University of Toledo program has moved ahead. It has been designed, and is continually reassessed and modified, in an attempt to cope with the problems of our students and to justify the faith that this educational institution has put in our university health and physical education requirement. It is important to point out that we have strived to achieve more than was expected and would not have it any other way, professionally and realistically speaking. It was "All or Nothing at All." Our sincere and fervent plea is . . . *rock more boats!*

# Physical Education in Community Junior Colleges[1]

**DEMIE J. MAINIERI**
Miami-Dade Junior College

The function of the community junior college is to provide experience which facilitate the total intellectual, social, emotional, and physical development and adjustment of students. To overemphasize any one phase of the students' development at the expense of the other would be most disastrous since the human body is made up of different systems which are interdependent and interrelated.

There is no doubt that the core of the college setting is and should be the academic curriculum; however, the physical, social, and emotional phases of the college living may, nevertheless, be of greater immediate concern to many of the students than the academic courses in their schedules. These facets of the students' development are significant since peer acceptance is of vital importance to them. The college physical education program, with its wide variety of physical activities, provides the instructors with numerous opportunities to guide students into activities consistent with their health and their social and recreational needs and interests, thereby helping them to gain some competence in activities that will lead to being accepted by their peers. More specifically, the contributions of physical education in modern-day living may be discussed under three broad headings:

1. Physical education and balanced living
2. Physical education and the era of automation
3. Physical education and modern-day tensions

The concept of a life balanced among study, work, and utilization of leisure time is of utmost importance to junior college students, since many of them are holding full or part-time jobs besides attending college. The junior college physical education program should, therefore, assist these students in selecting physical activities that will give balance to their lives. This particular guidance and orientation should be under competent and friendly leadership which respects the students' physical, social, and emotional needs. The physical education course offerings should be highly weighted toward recreational activities. These activities should be of the kind that the college student can participate in on weekends and other periods of leisure.

The era of automation has brought great advances in the fields of television, modern transportation, and electronics. It can be safely said that electricity and electronics have become the arms and legs of mankind. Consequently, during this age of speed and space, we have more time on our hands. We have now before us many opportunities for boredom; therefore, it seems imperative that the junior college physical education programs should make some efforts to vitalize our younger and rejuvenate our older citizens. Participation in some healthy recreational and physical activity is necessary. We have learned from psychology that people will shy away from activities in which they perform poorly. The young man courting will ignore the pleas of his girlfriend to go swimming if he is deathly afraid of the water. It would seem appropriate that junior college students should take advantage of their last opportunity to learn physical activities that will assist them in living a well-balanced life. It is this author's firm conviction that few students will take the time later in life to learn physical and recreational skills that they postponed learning during their school days.

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[1] A bibliography may be obtained from the author upon request.

Thus far colleges and, specifically, community junior colleges have done relatively little to assist students to meet successfully the many problems, including leisure, that lie ahead. This has particular significance in Florida where the ideal climate is conducive to engaging in recreational pursuits.

Students need education for solving these problems as much as for earning a living. What good is it for a student to learn skills necessary for earning a living, and then spend hours, days, and weeks off the job because of ill health? Our high incidence of mental health problems indicates that we are having difficulty coping with the pressures of the times. People (especially men) are dying from coronary attacks in their forties and this is sufficient evidence that we are having difficulty in living lives balanced between work and play. Individuals today are so zealous in gaining the material things of life that they look with disdain on people who take time off from work to go fishing, play golf, and the like. On the other hand, labor unions are forever trying to shorten the work week. Planned communities are now making provisions for recreation areas.

It would appear that interest in outdoor recreation and physical education will grow rapidly to coincide with this evolving philosophy of leisure and recreation. The community junior colleges with comprehensive physical education programs can contribute much to providing our youth and adults with skills in a wide variety of recreational activities so they can actively take advantage of the leisure time and planned recreational facilities.

In order to provide a physical education program to meet the needs of all students it is important to understand the type of student coming to the community junior college. It has been this author's observations that the students coming to junior college are of three types:

1. Those students whose financial resources will not allow them to attend a college away from home; therefore, they decide to pursue a two-year terminal course. These students usually work part-time and commute to college.
2. Those older students who are presently employed and who have a belated awareness of the need for a higher education.
3. Those students right out of high school who desire to transfer to a senior college or university. These students are very similar to freshmen students in any senior institution.

The problem of providing a physical education program to meet the needs of these diverse groups is the challenge facing the physical education personnel at the junior college level.

Would it be appropriate to provide a program of physical education that is a continuation of the secondary school program or provide a program that is handed down from a senior college or university? It would appear from the following facts and figures that such programs would meet the needs of most students in a junior college; however, new approaches in presenting a wide variety of activities would seem more meaningful.

1. "Less than 50 percent of our boys and girls in high school have physical education."
2. "Ninety-one percent of the nation's 150,000 elementary schools have no gymnasiums."
3. "Ninety percent of the nation's elementary schools have less than the recommended five acres of land necessary for essential play areas."
4. "Only 1,200 of 17,000 communities in the United States have full-time recreation leadership."
5. "Forty percent of those persons entering the Armed Forces in World War II were unable to swim as far as fifty feet."
6. "Drownings between the ages of five to forty-four are second only to motor vehicles in accidental deaths."

7. "Less than 5 percent of our youth have had the opportunity to enjoy the experience of camping and outdoor living."

Since many of the people employed in junior college physical education have come from either the secondary schools or senior colleges, imitations of these programs are in practice in many junior colleges throughout the country. It seems to this author that people in the field of physical education on the junior college level must recognize the fact that the students we are attempting to serve are unique. Compared to those students in high school or senior colleges the junior college students are unique in the following ways:

1. The wide variations in the age of students
2. The great number of young married students
3. The large number of employed students
4. The large number of adults
5. The wide divergence of interests between the regular day students and evening students.

To say that the junior college should emphasize fitness above everything else would be quite foolish, since physical fitness is accepted by most educators to be relative rather than absolute. It would seem appropriate to ask: What is fitness? What is physical fitness? Should the fitness level for the research scientist be the same as the fitness level of the law enforcement officer? Should the activities leading to fitness be as vigorous for a student at eighteen as a student of fifty? These questions are of particular concern at the junior college level, where there is an attempt to meet the needs of many diverse groups. The community junior college matriculates students nineteen to fifty years of age and students majoring in such diverse curriculums as homemaking, science, and police criminology. What directions should these different people take in relation to their physical education? Should the person who is fifty years of age be exempt from physical education? It would seem that exempting the older students would do nothing to help the geriatric problem. During the 1965–66 academic year, the Miami-Dade Junior College had two people in their physical education program who were over fifty and retired. These two people were counseled into such activities as fly and bait casting and golf and are now outstanding good will ambassadors for physical education.

It appears that the desired physical fitness level of the various vocational groups mentioned would be somewhat different; however, all persons should have some identical elements of physical fitness. Physical fitness is a state of being enabling a person to function efficiently in his daily work or chores without undue fatigue and to have enough reserve strength to meet emergencies that arise in his daily living. In addition, he must have sufficient stamina to engage in worthwhile recreational pursuits.

It is the author's feeling that we can develop an attitude of readiness for physical education in the minds of our students by giving them the "how and why" of physical education and fitness. On the junior college level, it is only common sense that we should present to our students—through lectures, a testing program, a training program, and a retesting program—information and knowledge that will realistically help the student plan a program of physical activity consistent with his interests, future vocational plans, and physical status. Students who continue their education in senior colleges and universities should have orientation in wide varieties of recreation activities so that they can continue to improve their skill levels in these activities while in senior college.

### Required Physical Education Programs in Florida

Unfortunately there is no state requirement in physical education in Florida junior and senior colleges. Basically, senior colleges and universities accept junior college transfers as long as the students complete their general education requirements at the junior college.

Each junior college has autonomy in developing its own general education program. Articulation problems, the decision as to what constitutes college credit courses, acceptable physical education credits, and the like have been resolved on a college-by-college basis. Typically, the junior colleges have attempted to develop general education programs which would articulate smoothly with the transfer requirement of the senior institutions. In Florida we have had very few problems of articulating our required physical education programs. Our greatest difficulties have been in the area of articulating our major programs in physical education.

The basic philosophy regarding the prescribed program among the junior colleges in Florida was that of an equal emphasis of physical fitness and carry-over recreation type of course offerings. Most junior colleges require four semesters of physical education in order for a student to graduate. A few junior colleges require only two credits in physical education. Orlando Junior College is the only college not having such a requirement. Two hours per week of physical education are given at most of the junior colleges. Indian River Junior College and Manatee Junior College require three hours per week. St. Petersburg Junior College and Palm Beach Junior College allow credits in physical education to count toward graduation but not toward honor points.

In all the junior colleges except Miami-Dade, students are exempt from physical education if they are over twenty-five years of age or have had previous service experience. Miami-Dade does not exempt for service experience; however, twenty-one years of age is the cut-off line. Most junior colleges offer a wide variety of carry-over recreation type of courses that adequately meet the needs of all the adult and typical students.

All of the junior colleges attempt to offer as many courses as possible on a co-education basis; however, team sports are separated by sex. A few junior colleges require swimming competence for graduation. Indian River Junior College calls its course "Survival Swimming."

The majority of junior colleges allow the students free choice in selecting activity courses; half of the junior colleges give students free choice after they take the basic course in physical education. Only two colleges give no choice, and the students must take the units offered. It was noted that the smaller junior colleges have less variety than the larger colleges; therefore, they offer unit type courses such as a combination of two or more activities in one course rather than single activity courses in golf, tennis, and bowling.

The majority of the junior colleges have no adaptive program. Indian River Junior College and Miami-Dade Junior College have in operation adaptive programs for students with handicapping defects. Both colleges have a special adaptive course; however, students are encouraged to take such courses as bowling, badminton, archery, fly and bait casting with the typical students if their family physicians approve these activities.

# Illinois Junior College Physical Education Programs and Their Articulation with Four-Year Institutions[1]

**JOHN J. SWALEC**
Triton College

It is the purpose of this paper to acquaint the reader with the basic instruction programs in the Illinois public junior colleges and, specifically, the program at Triton College. Also, an attempt will be made to identify the need, problems, and possible solutions of the articulation process between these junior colleges and the degree-granting colleges of Illinois.

This year there are twenty-nine public junior colleges in operation in the state of Illinois. Under the Illinois Master Plan five new junior colleges are expected to open their doors in the fall of 1967, and a number of other districts are even now being formed.

Triton College is a new public community college and technical institute which was founded in March 1964; it serves the Elmwood Park, Leyden, and Proviso townships, western suburbs of Chicago in Cook County. At the present time instruction is being offered from 3 p.m. to 10 p.m. in West Leyden High School at 1000 Wolf Road, Northlake, Illinois. Building plans are well under way for the establishment of a permanent campus to be located at 5th and Palmer Avenues in River Grove, Illinois. The first buildings are expected to be completed in 1968, and it is hoped that the entire campus will be occupied by 1970.

Triton College is committed to excellence in education. The curriculums and subjects are matched to the needs of each student in the communities which the college serves. The college is dedicated to superior quality instruction for all the people within the limitations of their ability and to the maximum total educational development of each individual. To implement its philosophy, the institution seeks to fulfill the following five major objectives:

1. To provide transfer education paralleling the freshman and sophomore studies undertaken at the University of Illinois, state colleges, private colleges, and universities.
2. To provide occupational education.
3. To provide continuing education for local residents.
4. To provide guidance and counseling services.
5. To provide community services for educational, cultural, vocational, and recreational activities through existing facilities and stimulated by college staff.

To comply with the basic philosophy of the college, the program includes a wide and varied selection of courses and curriculums. The technical area alone includes nineteen curricular offerings and expects to offer at least ten more in the future. The transfer area lists twenty-six curriculums.

Physical education is considered an integral part of the institution's educational process. Our board and its administrators have been receptive to proposed course offerings, programing, and faculty selection. The oneness of mind and body is specifically accepted as the reason for requiring that each fulltime student take physical education while in attendance at Triton College. To receive an associate degree, a student is required to complete a minimum of sixty semester hours' work plus four semester hours' credit in physical education.

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[1] Tables may be obtained from the author upon request.

At Triton, the offerings in physical education and in other transfer areas are closely related to the offerings of the University of Illinois. This philosophy is based upon two surveys the college undertook to determine where most of our students would continue their education. The most recent survey indicated that although the University of Illinois was not selected by the majority of these students surveyed, it was established as the most popular institution for continuing education.

All of the public junior colleges in Illinois which have available facilities include physical education as a part of their total program; the majority of these schools require four semesters of successful participation. The curricular offerings at these junior colleges are not patterned after any one particular college or university. Although the University of Illinois is most frequently mentioned as the institution followed, the greatest number of junior colleges do not ally their courses with another school.

This leads us to perhaps the most important and challenging question of articulation. As junior colleges become established, which four-year institution should they follow? Should they be influenced by more than one or should they be influenced by the private universities in which many students express interest? This problem is not as pronounced in the basic instructional program of physical education as it is in the professional (majors) courses or in other academic areas. In these areas, it is virtually impossible for any junior college to satisfy the requirements of all of the colleges which its students may expect to attend. A quick review of the catalogs will disclose the variety of programs and philosophies of our state, public, and private institutions.

In the basic instruction programs of the Illinois state colleges and universities, the physical education requirement is generally the same; however, a basic activities course must be taken in at least three institutions. Also, a student may be allowed to select from as many as thirty-nine activities or be limited to just four. These activities might range from angling and horseback riding to boxing or wrestling. Of course, overcrowded conditions have reduced the effectiveness of many institutional offerings and requirements. Occasionally students might "proficiency out" or just be generally excused from physical education activities. This is, perhaps, another problem, but one which will eventually concern the junior colleges.

The general philosophy of all junior colleges, which calls on them to attempt to meet the needs of the community and area which they serve, adds to the confusion of the desired program offerings. Besides serving the transfer student, the junior college faces the responsibility of making a desirable contribution to the occupational student. For instance, at Triton the individuals in the police science curriculum have been provided with a self-defense program, and the nurses are required to take basic movement and body mechanics.

The part-time student (that is, one who is taking fewer than 12 hours) can be expected to desire activities which will meet his immediate needs. He may be interested in losing weight, gaining a certain degree of fitness, obtaining an initial knowledge of a particular sport or activity, or generally engaging in some sort of activity in which credit can be earned.

Both the student wishing to complete his general physical education requirement and the professional student interested in the field of health, physical education, and recreation are vitally concerned with the transferability of these courses, although the two programs are separate. Some of these schools have complicated the junior college articulation problem by combining major classes and basic instruction sections. To add to the confusion, the term "physical education" has been known to be listed on transcripts or the students' programs instead of the specific physical education activity. Presently these practices seem to be more judiciously corrected.

Triton College has thirty-nine basic instruction courses and seven others pending approval. A full-time student is required to select a physical education course under the listing of basic instructional courses, where a minimum of twenty-five activities are offered each semester. Since a limit is placed on the number of courses offered in any particular activity, selection of only certain desired courses by the students is not possible. This, along with time and facility availability, will compel the student to select some activities with which he is familiar.

Through this method of registration and presentation, the students have acquired a greater appreciation for activities such as fencing, square dance, coed modern dance, circus stunts, backyard sports, self-defense, and other activities in which they, as individuals or groups, may have been reluctant to enroll. Our registration for these classes, which were not as much in demand as the standard activities such as basketball and volleyball, became the first to be filled the past two semesters. We attribute most of this popularity to our students formerly and presently enrolled in the activities.

In the professional offerings a different philosophy predominates. With rare exception, professional students are not allowed to take the basic instructional courses, nor are the students who are not physical education majors allowed to take the professional courses. Here again, the twenty-three offered courses parallel the selections of the University of Illinois; however, the general philosophy of the division encourages the student to consider strongly the requirements of the four-year institution he expects to attend rather than to strive for the associate degree. An introductory course is offered; here direction is provided for the student so that he may wisely plan his four years and eliminate any possibility of course repetition or nonacceptance.

In the past, and even at the present time, the junior college movement in Illinois has been retarded because of a woeful lack of facilities, primarily caused by sharing the facilities with the high schools. The recent passage of the new Illinois Master Plan will virtually eliminate the sharing of facilities with high schools. Most of the state's public junior colleges are well under way with plans for the construction of new physical education facilities. Within ten years there should be a tremendous change in the instructional areas for physical education.

Although the lack of facilities limits the programs of virtually all public junior colleges in Illinois, Triton has access to an outstanding physical plant. The facilities of West Leyden High School comprise a total of 54,000 square feet of space with eight and one-half teaching stations and include a field house, girls gymnasium, dance area, gymnastics room, wrestling area, adaptive room, and Olympic-size swimming pool. The administration and the consultants have shown an appreciation for our present and future program with their consideration of proposed facilities for our new campus.

The greatest asset of any institution is its ability to provide complete and thorough instruction. The new movement in Illinois has accelerated the recruitment of top flight personnel to serve as full-time and part-time instructors. Besides having the tax base to have a salary schedule which will attract highly qualified full-time instructros, junior colleges are able to obtain the services of outstanding part-time teachers.

At Triton, our full-time staff is programed to teach their specialties; then we search for (and have been fortunate to secure) people who are qualified to teach certain individual courses. Applying this philosophy, we have been able to employ individuals who have a master's degree plus forty-five hours beyond and ten years' experience on the average. These include individuals with an Ed.D., high school department chairmen, head coaches, and other instructors who are devoted to teaching their specialties.

While this method of staff utilization may have drawbacks, it has shown strength in application. Certainly on the basis of experience and training alone, the employment of qualified physical educators as part-time instructors is seemingly more desirable than the extensive use of graduate assistants.

In summary, it is not for anyone to say that any junior college has the answers for the basic instruction articulation process; however, it will perhaps illustrate that junior colleges have the ability to provide these services. Lyman Glenny, director of the Illinois Board of Higher Education, has stated in an articulation conference at the University of Illinois: "In the future it can be expected that at least 80 percent of all students entering four-year institutions will have had two years of instruction on the junior college level." It may be reassuring to know that these services can be provided in most cases. Illinois and other states are following the lead of states such as California where the junior college is a necessary institution formed to meet the evergrowing demands upon our educational structure. Of course there are many problems that need to be solved before successful articulation can take place. In Illinois staffing and facilities are immediate problems which can be expected to be resolved as the master plan is followed in the near future.

However, as new districts are formed, the question of the basis for the curricular offerings will in many cases remain in doubt. The junior college should be expected to attempt to establish course offerings which are acceptable to the four-year institution. Which direction will the school take? Since it is impossible to provide offerings which will meet the needs of all its students to all colleges and universities which they expect to attend, should the most popular one, two, or three be followed? What happens to the other students?

The general junior-senior college philosophy of basic instruction in physical education needs to be clarified and unified. The desirability and requirement of basic activities classes, the range and depth of desirable activities courses, and, perhaps, the method of selection of course offerings are all questions which deserve consideration immediately. The junior colleges should not have to *select* a program to follow, but rather they should *have* a program to follow.

The major problem of articulation does not appear to be between the junior college and the four-year institution unless the junior college in question does not follow the philosophy of the particular college or university.

The senior institution will soon become aware of the desire of the junior college to provide acceptable basic instruction and the capability to do so with university assistance; and, under their guidance, the junior college will need to, will be expected to, and will, do the job.

# Articulation from the California Junior College Point of View

**GORDON M. GRAY**
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The major goal of articulation is the achievement of a general plan to coordinate all junior colleges, colleges, and universities in such a way as to expedite the student's path as he travels toward his education goal. Articulation, as related to California, has not as yet achieved this lofty goal. Interest in articulation among educators on the junior college, college, and university levels has been high for several years, but even in 1966 there is a wide difference of opinion as to how effectively the problem of articulation is being met.

State college chancellor Glenn S. Dumke, a member of the Coordinating Council for Higher Education, contends that the state colleges have been negotiating this problem with the junior colleges and were "close to agreement." However, Henry Tyler, executive secretary of the California Junior College Association, speaking for his colleagues, said that the junior colleges do not think the problem is being solved. A general questioning of educational personnel in California junior colleges and four-year institutions revealed the following views:

1. Some university personnel feel strongly that their faculties should determine the requirements on which the university is going to grant a degree.
2. Junior college people strongly voice the opinion that junior college "general education" or "breadth" courses be accepted by all branches of the University of California and by all state colleges.
3. University spokesmen suggest that to adopt a universal acceptance of junior college courses would "rock the boat with the faculty."
4. Willard Spalding, staff director of the Coordinating Council for Higher Education suggests that "if the state's eighty junior colleges are to be truly regarded as equal partners in the state's system of higher education, then the value of their courses must be accepted by the University of California and the state colleges."

The council further calls attention to the fact that the Master Plan for Higher Education in California envisaged the university, state colleges, and junior colleges as equal partners in lower division academic programs. This principle makes diversion possible. When one segment refuses to honor another segment's offerings, the equality is lost and diversion becomes a disservice to the student. As a result, in March 1966 the council made the following recommendation:

> When a junior college certifies that a student has satisfactorily completed the lower division breadth or general education requirements, or any part thereof, of a particular university campus or state college, all other institutions in both segments accept such certification as satisfactory completion of its breadth or general education requirements or any equivalent part thereof.

Basically some of the problems faced by the junior college student are these:

1. He is faced with a system in which each junior college enters into agreements with individual state colleges and universities. Some of these agreements cover (a) type of transfer credit to be allowed, (b) amount of total unit credit to be allowed, (c) course content, and (d) course equivalency.

2. Gil Bishop, chairman of health education and physical education at Bakersfield College at Bakersfield, California, and a long-time leader in problems of articulation, suggests that we may be talking about 1500 different agreements of one type or another.

3. Lack of uniformity, as now existing results in (a) courses being accepted at full value by one college but for only partial value at another and (b) courses being accepted for the general education requirement by one four-year institution, but for only elective credit in another.

In 1955–56, under the leadership of Louis Means, the California State Department of Education in cooperation with the California Junior College Association, and the California Association for Health, Physical Education, and Recreation conducted its now famous California Junior College Study Project in Health, Physical Education, and Recreation.

Even today, this report remains as one of the few existing guidelines for California junior college programing. Herein perhaps rests one of the reasons that junior college educators feel they have been left "at the starting gate"—for there is a crippling absence of a centralized plan of action to assist in meeting articulation problems.

Principle IV of Dr. Mean's study recommends that the junior college place greater emphasis upon lower division preparation of elementary school teachers in the area of physical education. Courses should be offered in elementary school rhythms and elementary school games.

Principle VI advocates that junior colleges offer appropriate demonstration, laboratory, and lecture courses in physical education, health education, and recreational leadership. Courses under trained leadership should be offered in camp counseling, introduction to physical education, introduction to community recreation, health education, first aid and safety education, social recreation, and certain professional activities of a demonstrative, laboratory, and lecture nature.

An examination of the various junior college curriculums in California indicates that introduction to physical education, health education, and first aid are commonly existent—the other courses only sparsely so—depending upon the needs of the individual junior college student and the importance which his own college places on other lower division preparatory courses.

Many California junior colleges offer courses in physical education not specifically acceptable to or approved by the state college or the university. It is quite apparent that in doing this the junior colleges have not endeared themselves to their colleagues, and perhaps have not alleviated the growing problem of cooperative effort. California has attempted to treat the problem of articulation primarily on a local or regional level. And evidence seems to exist that indicates that it is on the local or regional level that most advances in articulative effort are accomplished. Most junior colleges in our state enjoy a practical and successful working relationship with state colleges and universities in close proximity. However, when the transfering student has occasion to alter his choice of a four-year institution, or to migrate to another geographical area, problems often arise. This condition is one which prompts many educators in California to seek a centralized, statewide plan for articulation.

*Where Do We Go from Here?* As one travels throughout the state of California talking, discussing, questioning, and seeking, it is very apparent that many and various ideas and suggestions will be received. Some of the key ideas that emanate from educators in California who are deeply involved and seriously concerned about articulation are listed below:

1. *Improved communication must result.* It probably must start on the local and regional level as the recognition of each other's problems has been a major force in whatever successful communication exists today.

2. However, some plan for statewide acceptance of articulation procedures must be found that does not destroy institutional autonomy, yet protects the right of all to closely cooperate and participate in planning.

3. The rapid growth of California educational institutions, both in size and number, has all but nullified the existence of common objectives. The choice of a state college or a university has been taken away from thousands of students—on a grade basis. They are told to attend a junior college. If this is to be the case, the junior colleges, state colleges, and universities should have some current, practical, common objectives.

4. A strong hand of state leadership is needed. Perhaps it is the role of the Bureau of Health Education, Physical Education, and Recreation to initiate a study directed at providing (a) a statement of need, (b) a study committee composed of those who can effect and bring about improvement, and (c) a final recommendation for action.

5. Properly planned and armed with some authority to act in promptness, a statewide conference of leaders in junior college, college, and university areas could regenerate some of the coordination started several years ago, but which has become inactive and stagnant in today's operation.

6. It seems reasonable that our colleges and universities should once again "strike the first blow" by taking the initiative. Inasmuch as our colleges and universities accept or reject the junior college transfer, they are undoubtedly the best qualified to suggest the basis upon which common understanding may be developed.

In conclusion, it should be sufficient to say that a very strong feeling exists in California today—that as physical educators we must either "get off of the seat of our pants" and attempt to improve articulation right now, or someone else outside of our very great profession is going to do it for us.

# New England Junior College Physical Education Programs—Their Articulation with Four-Year Institutions

**GRANT LONGLEY**
Dean Junior College

When the junior college man can sit down at the same table with the university man and discuss mutual problems, I say, "Hallelujah!" For those on the West Coast this statement will not seem quite so earthshaking—but my many friends on the East Coast, I think, will echo my statement with a lusty "Amen." At least in little old New England, the junior college is still looked at with suspicious eyes, down a very long nose.

Let's look at physical education in the junior college in New England. Perhaps there is some justification, after all, for at least part of the haughtiness of the senior college and university. At a recent meeting held on the campus of Dean Junior College, a majority of the athletic directors of the New England junior colleges were present. This was only the second time in the history of New England junior college athletics that more than six athletic administrators ever sat down together to try to formulate plans, organize a conference, discuss mutual problems, etc. The previous meeting was held last spring when I invited the same group to our campus to initiate a New England Junior College Athletic Directors' Council.

My next statement will reflect a bit of my own philosophy, namely, that athletics should be but a phase of the total physical education program. I am afraid there are some colleges which consider athletics to be the program. Without naming the college or its personnel, I question how many of the twelve colleges represented had an athletic director who was professionally oriented in physical education or even held a degree with a major in physical education. I rather suspect, less than 50 percent.

I have not polled all forty New England junior colleges in which men are enrolled that are categorically classified as junior colleges. Actually, I didn't think I needed to, especially when each of these colleges had been invited to our Athletic Directors' Council—and practically every college sponsoring more than two varsity sports sent its representative. Perhaps I was a bit too presumptive. But having dealt with physical education and athletics in New England for over thirty years, I have grown accustomed to seeing competitive athletic programs being sponsored in most institutions before a physical education program. Therefore, I polled only the members of the New England Junior College Athletic Directors' Council.

At any rate, of the twelve major "athletic powers" represented *only two had a required physical education program.* Dean Junior College is the only junior college in New England with a required two-year program. After this revelation, I feel like "hanging my head." Thank goodness New England junior college academic programs do not operate on the same level!

Briefly, the program of physical education which we have at Dean Junior College—even though it is not typical of the physical education programs being offered in the New England junior college area—consists of the following: Each male student is assigned two one-hour gym classes per week in his freshman year. He may keep the same instructor the entire year (if his schedule is not changed, or that of the instructors). Each instructor sets up his own program in the light of his special capabilities and philosophy. Our entire staff believes in big-muscle activity and we try to administer a program that includes at least 50 percent of our work of a cardiorespiratory nature. This means that all of our freshmen will receive some training in either gymnastics or weight lifting plus a great deal of running.

At Dean we are fortunate in being one of the few junior colleges in New England with a swimming pool. We try to arrange each freshman's schedule so that he will receive some instruction in swimming, especially if he is a nonswimmer or a low beginner. We have an unwritten law in our department that all males must be able to swim 100 yards before graduation. Another major goal or objective we wish to achieve is to offer our freshmen some activities which have some carry-over value and are of a recreational nature. It has been our observation that most high schools, in New England at least, give their students a program which is quite limited in scope. Therefore we feel our men should receive some experience in such sports as lacrosse, soccer, wrestling, boxing, tennis, badminton, and equitation. In this manner, after exploration he may decide to elect one of these activities in which to become more proficient during his second year, either through (1) varsity competition, (2) an activity skill class, or (3) our extensive intramural program. Unfortunately, we have not participated in any extramural program, probably because we have one of the most extensive intercollegiate athletic programs in the country, fielding fourteen varsity sports and two club teams.

The second year program at Dean is an elective one, as far as possible. Many times the student cannot get his first or second choice because of schedule difficulties; so he is arbitrarily put into a class with his peer group which is patterned after the freshman program. No male is excused from the two-year physical education requirement at Dean. I might add that 87 percent of our students transfer on to a senior college. If a student cannot participate in an activity and no substitute can be found, he automatically enters our "special class." This terminology may be poor, (and undoubtably changed in another year) but the implication is that the student has a special form of physical education. This constitutes a two-hour lecture class each week, so that all medically excused students can be accommodated.

We feel we are servicing every male student at Dean. We recognize that there are weaknesses in our program, but at the same time we are confident that we are on the right track, and we are proud that Dean is the forerunner of subsequent programs that I am sure the members of our junior college community in New England will undertake in the future.

As we move out of the New England area to that of New York, we find that many of the New York community colleges have at least a one-year required program of physical education, and in some instances a two-year program is offered. I would like to refer to the new book just off the press by Chris Chachis of Orange County Community College, entitled *Handbook of Physical Education and Athletics*. Mr. Chachis states on page 12,

> The program of physical education and athletics in almost all two-year colleges is concerned strictly with the men and women students of the Day Division. Most two-year colleges require a minimum of a one-year course of physical education for graduation. The majority of students who plan to transfer to four-year colleges register for additional courses of physical education in their second year so as to meet the requirement in the junior year at the college of their choice.

He further states that "the program of instruction is planned around carry-over value activities."

In the light of my remarks so far, one can understand why authorities must be in a turmoil as to the articulation of the physical education program offered by the junior colleges with that offered by the senior colleges. Yet, in practice it is not as bad as it would seem.

In New England there is no problem. The senior colleges need be concerned with only the programs offered by two junior colleges. To the best of my knowledge, no student from either junior college has lost credit hours when transfering to a senior college or university. I believe this to be true also of the New York junior colleges. The only "kickback" that I can find comes from some of the students in those colleges which offer only one year of physical education. There the administrators have indicated to me that there has been a complaint on the part of those students transfering to the four-year institution which requires four semesters of physical education. These students would have much preferred to have completed the entire physical education requirement in the junior college. To me this offers ample justification for all junior colleges to include a two-year program of physical education in its course of study.

In my 9000-mile, sixteen-state survey of the past three months, I repeatedly asked the chairmen of the physical education department of many leading colleges and universities to comment on the articulation of the junior college student entering their institution at the sophomore or junior level. Almost without exception, they have replied, "If the institution from which the student transfers is an accredited institution, we accept the credit without question." About three colleges out of twenty queried look at course content of the junior college, and, apparently, if it lines up with their own program, they give full credit. If not, only partial or no credit is given. So it seems to me that there is no unsurmountable problem confronting all of us.

The other members of this panel have indicated the same general articulation problems. Some of these generalizations are summed up below:

1. A majority of junior colleges offer at least one year of general service classes of physical education. Many offer two-year programs, some on a required, others on an elective basis.

2. A majority of junior colleges tend to offer a choice to the student as to the content of his own physical education program.

3. A majority of senior colleges studied tend to offer a choice to the student as to the content of his own physical education program, especially in the student's second year.

4. Nationwide (Longley's conclusion), it would appear the percentage of senior colleges requiring a second (and even a third) year of physical educarion is greater than the junior colleges requiring a second year.

5. There is little articulation problem between the junior and senior college when the two colleges involved use the free choice of activities form of program.

6. A few states have initiated articulation conferences between the junior and senior colleges both for the basic service class requirement as well as the professional curriculum.

7. Many junior colleges pattern their programs after one or two nearby senior colleges to which a majority of their students transfer.

8. There is clear evidence that *all* junior colleges should offer at least a one-year program of physical education, preferably two. Otherwise the senior colleges are obligated in most instances to require the junior college transfer to enroll in physical education classes for two years at the upper level. I have found in my travels, though, that some universities give an exemption from physical education if the transfer student enters with twenty-four or more hours of transfer credit. I ask, "Why"? Here is an articulation problem! The answer is strictly within the jurisdiction of the university.

9. I have found several terms being used to describe the physical education requirement. I am sure that all physical educators are not using some of the terms in the same context. Some of us are using the following terms synonomously: general service class, basic instruction class, basic activity class, general physical education class, "gym class." Let's agree on the meaning of these terms!

10. If the junior or senior college offers a one-semester or one-year *basic instruction course* for all freshmen instead of the free choice type of program, then we have articulation problems. It depends upon the rationale for the basic instruction course whether the physical education course of the junior college will be acceptable to the senior college.

Here is the major problem of this conference. Unfortunately all of us in the junior colleges have shied away from it. The reason for this, I am sure, is that we feel that there are no two senior colleges which will agree as to what constitutes a good basic instruction course. We are looking for direction from the senior college and university. Until that day comes, the senior college must provide much latitude from the junior college program.

Under the Master Plan of the State of California it is only a matter of two or three years when practically all California college students in state-supported colleges will receive their first two years of instruction in the junior colleges, then will transfer to the senior college or university for their last two years. I believe there will be a trend nationwide to follow the California pattern. It really makes sense. If this is the case, could we not predict that our problem of articulation will be further minimized by the mere fact that the junior college will be offering *all* of the service programs (if it remains as a four-semester requirement for graduation). Therefore, the senior college will not need to concern itself with the service program of physical education.

Actually it will not be quite as simple a solution as I have pictured. The private institutions, both senior and junior colleges, will not acquiesce to such an administrative setup—except under duress. Finally, I admonish all junior colleges that they have a tremendous task ahead of them. The challenge is certainly there!! I am positive the senior colleges will look to us for an ever increasing responsibility in preparing the youth of our great country not only in a physical sense, but, also, to meet the demands of an emotion-packed, socially complex society.

# Intramural Survey of California Public Junior Colleges, Fall 1966

**CHESTER DE VORE**
South Western College

1. Total responses: 27 colleges

2. Day enrollment ranged from less than 500 to more than 8,000. Twelve colleges reported enrollments between 3,000 and 35,000.

3. Intramural programs maintained
Yes: 25
No: 2

4. Estimated percentages of participation
Men ranged from less than 5 percent to more than 30 percent. Nineteen colleges indicated participation of from 10 percent to 20 percent.
Women ranged from 1 percent to 20 percent. Nineteen colleges indicated participation of from 5 percent to 10 percent.

5. Programs maintained for—
Day students: 25
Evening students: 4
Women: 16
Men: 21
Coeducational: 23

6. Structure and organizations of teams
Clubs: 13
Physical education classes: 16
Unattached: 16

7. Time of competition
A. M.: 13
Noon: 11
Afternoon: 11
Evening: 4

8. Day or days of competition
Monday: 10
Tuesday: 16
Wednesday: 16
Thursday: 16
Friday: 12
Saturday: 1

9. Competition scheduled in—
Archery: 9
Touch football: 20
Cross country: 1
Basketball: 23
Wrestling: 5
Softball: 16
Tennis: 18
Swimming: 10
Badminton: 17
Volleyball: 24
Handball: 10
Golf: 7
Bowling: 11
Water polo: 2
Track: 10
Ping pong: 6
Field hockey: 2
Gymnastics: 2
Checkers: 1
Chess: 2

10. Rate your program

Excellent: 0
Above average: 10
Good: 9
Below average: 6
Poor: 2

11. Who administers program

Director of athletics: 4
Department chairman: 5
Special assignment: 17

12. Salary

Extra pay: 8
Release time: 10
Neither: 7

13. Should intramurals be—

Expanded: 22
Hold the line: 4
Reduced: 0
Dropped: 0

14. Form completed by—

Administrator: 6
Director of athletics: 10
Director of intramurals: 5
Other: 6

15. Remarks

All remarks indicated a strong desire to expand and improve the intramural program. The major problems could be summarized by—

1. Failure to provide free time in the class schedule.
2. Facilities not available at the desired times.
3. Lack of administrative support.
4. Need for organizational ability and enthusiasm on the part of the director.

# Utilization of the Computer in Scheduling Intramural Sports

**JOSEPH R. HIGGINS**[1]
Stanford University

Utilization of the computer in education today seems to be accepted as a valuable tool both technically and practically. The computer can be a powerful tool by which its user can enhance his own effectiveness. The error-free computation juxtaposed with the quantity of data and rapidity with which computations can be made obviate the feasibility of its utilization in the area of intramural sports programing. The endless hours of mundane clerical work so characteristic of an intramural office can be greatly reduced by the computer. Most college campuses have these facilities available and provide instruction in their utilization as well as advice and counsel in programing and debugging.

Because of increased team and student participation, the variety of sports offered each quarter, and the facility utilization by the physical education and athletic departments, manual scheduling demands are overwhelming. These demands have in many cases led to lessened flexibility with respect to the way the intramural director can schedule team contests to meet individual unit scheduling. For example, during the spring quarter Stanford University offers competition in four team sports: bowling, softball, water polo, and volleyball. Many units have players competing on two or three of these sports teams. The volume of scheduling done by the intramural staff and the rigidity often encountered in meeting the individual unit scheduling needs demand that the computer be employed. It can check and recheck all data being generated and store almost unlimited quantities of information and operate on this information and data with speed and accuracy. The computer thus frees the staff and allows for more attention to be directed to other aspects of the program.

As it is presently constituted, this computerized scheduling program is in two parts. Part I is adaptable to any intramural department having access to a computer. It is a program designed to generate unique game numbers for each game in each round robin league and to read out these numbers in two forms of lists. The first form lists by league the two teams involved in each game with a corresponding game number. The second form lists each team by league with the numbers of each game it is to play in the round robin. Part I is also used to generate the input data for part II.

Part II adds another dimension to part I in that a completed schedule for the entire playing season results for each team for each sport. After preliminary investigation and program experimentation, part II was written to match the output formats from the Part I data with a program entitled "The Stanford School Scheduling System" (SSSS). This system is used to meet the requirements for determining the intramural master schedule and assigning games and teams to specific playing days and playing fields. The SSSS is a program developed by the Stanford University project on high school flexible scheduling and curriculum study, whereby the computer generates a secondary school master schedule and assigns students to classes and classes to rooms.

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[1] Credit should be given to Lawrence A. Benningson, assistant professor of industrial engineering, Stanford University, for his assistance in programing Part I of this system.

The experimental stages of the intramural scheduling system at Stanford University are now complete and will be operative by the spring quarter of the 1966–67 academic year. Part I is written in Algol computer language for the Burroughs B5500 computer. Part II employs Fortran computer language and is processed on the IBM 7090.

At the beginning of each quarter units are asked to submit their entries for the various sports offered. Along with this entry they indicate on a specially designed form the day of the playing week on which they cannot participate for each sport. Leagues are then established and made up by the director with specially formated prepunched IBM cards. The league cards designate league number, sport, and number of teams composing that league. This card is followed by a unit entry card corresponding to each team entered in the league. Each of the units is assigned a unique and permanent three digit number and a three alpha character designation. For example, Phi Gamma Delta has a numeric code of 014 and an alpha designation of PGD. These, along with the complete alpha representation for each team, compose the unit entry card.

When all the leagues are made up with appropriate unit entry cards for each sport they constitute the data deck for part I. An extra supply of prepunched league cards and unit entry cards are maintained and filed so that as leagues are made up each quarter a staff member may pull the card from the file. This eliminates the need to keypunch each entry for each sport and each league.

This is all the information necessary when only part I of the system is to be used. When part II is employed, however, the calendar for the entire competitive season must be carefully evaluated in order to accurately determine the availability and number of playing dates and times. With the use of a specially designed coding sheet, time and day restrictions for each round are developed and become a part of the part I program. Specific playing fields available are also determined for each sport for each playing season and for each league. For instance, a particular league may wish to play all its games on a specific field or fields, and this information is keypunched into a specific format and inserted into the program. The program automatically restricts the playing areas or fields to the related sports.

As the leagues are established and made up with the IBM cards, they are listed at the computation center. This is a 60 second typing process from which the information on the IBM cards is printed on a paper read-out. This list is then carefully checked for possible errors in the league alignments. When the round restrictions and the playing area restrictions have been determined, and the lists have been checked, the program is ready to run. A preliminary compile run is then made. This run, taking approximately 10 seconds, checks the actual program for errors and logical inconsistencies.

The next step is to make an experimental computer run with one league to check the consistency and formats of the output. The final run is then made with the complete data deck. This includes each league by sport and all the teams entered.

When part II is utilized, the output from part I is in the form of three decks of specially formated punched cards. These cards are added to two previously compiled decks and constitute the input data deck for part II of SSSS. This data deck is taken to the SSSS project and is processed within 48 hours with the completed playing schedules. These are printed on a master sheet, which is reproduced so that each team receives a copy. The schedule is in a form similar to one a high school student might receive indicating his academic program and class schedule. This list includes the entire quarter schedule for each unit and denotes the date and time of the scheduled contest.

During the spring quarter of 1966 a comparison was made between manual scheduling and scheduling with the aid of the computer. Eleven softball leagues, 17 volleyball leagues, and 5 water polo leagues, totaling 200 team entries in 33 leagues, were processed and scheduled. The compilation time to generate the data for part I was 19 seconds. Fifteen minutes were needed for card punching the output data. When only part I was employed, the compilation time was reduced to about 12 seconds because no additional output time was required for card punching and special formulating.

The preparation time prior to making a computer run totaled five hours. This included making up the leagues with the use of the prepunched IBM cards and establishing and codifying the day and field restrictions for the entire quarter. The total time when preparing for manual scheduling amounted to approximately 10 hours. The time saved resulted from the systematized way the leagues could be set up with the prepunched IBM unit and league cards.

The part I computer run was made at a cost of approximately $10.00. When compared to manual scheduling, which involved about 20 hours of office work, a considerable time and financial saving was realized. When part II was used, a saving of approximately six to ten clerical hours per week was realized. For a six week competitive season, this totaled 36 to 60 hours.

The cost for running a quarter's intramural schedule is based on Stanford Computation Center cost schedules. Charges are figured on the basis of processor computer time. The part I program averages 20 seconds for the processor and approximately three minutes operation time. When cards are punched (at a rate of 400 per minute), another 15 minutes of machine storage and card punch time is needed. It is estimated that the complete scheduling cost runs between $25.00 and $40.00 per quarter. This is based upon a charge of $2.50 per minute, or $150.00 per hour for the Burroughs B5500. The cost for the IBM 7090 is $225.00 per hour and takes the greater percentage of the total per quarter cost. Since a punched card output from Part I is needed when utilizing the Part II program, a nominal charge is assessed for the added punchcard time. The cost differential between $25.00 and $40.00 is accounted for by additional computer use resulting from the development of a bug in the program. The cost will also vary according to the number of sports, leagues, and teams being worked into the schedule.

The accuracy of the computerized scheduling program cannot be overemphasized, for it is error-free if proper and correct information has been supplied by the staff. Furthermore, the format of the IBM list sheets is so concisely organized and clearly printed that the staff can easily check the schedule.

Careful consideration is given to ascertaining the playing needs of participating units each quarter. These desires and needs, when possible, are programed into the system in order to enhance the flexibility of the total system. Teams are allowed to select a day they cannot participate each week for each sport. Two or three dummy teams are programed into each sport schedule in order to allow for late entries and possible changes in schedules where an open time is desired. Certain units have playing facilities adjacent to their living areas. This information is programed into the computer and only these teams are scheduled for these areas. Playing areas are scheduled on a rotating basis so that in most cases no one team plays continually on the same field.

When considerations such as these can be programed into the scheduling process the chances of success and acceptance on the part of the participating teams is enhanced. The general attitude on the part of the participating teams has been most positive. When snags occurred in scheduling during the developmental stages, the office staff was ready with a back-up program or schedule. As the units made suggestions or presented their needs, an attempt was made to incorporate them into the system. A concerted effort was made to contact the participating units and assess their attitudes, needs, and desires related to the developing scheduling system as well as to the total intramural program. The opportunity for individual unit contact by the staff cannot be stressed enough. The time saved by utilizing the computer allows the staff this opportunity.

The utilization of the computer for aiding in the scheduling of intramurals seems to be feasible. It provides a rapid and accurate way to accomplish the time-consuming tasks of pairing teams for competition in a round robin and scheduling these teams for competition. There appears to be enough flexibility inherent in the system to meet the individual unit and team needs. Each institution's intramural department will have to assess its own scheduling needs and match these needs with a computer program and the computation facilities available on its campus. At Stanford University the employment of a computerized scheduling system has every indication of being a useful tool and adjunct to the total program.

# Improvement and Retention of Physical Fitness

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The physical fitness of two groups of entering college freshmen was studied over a sixteen-week period. The purposes of the study were (1) to determine the degree of improvement in fitness attainable in a brief but very intensive program of physical conditioning and (2) to determine the degree of retention of this fitness level following a period of relative inactivity.

The subjects were two groups of male college freshmen students who attended two different terms at a university summer orientation camp and who returned to the main campus of the university at the beginning of the following fall semester. Each student took eight standard measures of physical fitness on three different occasions: (1) at the beginning of the summer term when enrolling in the intensive physical conditioning program, (2) at the end of the six-week term of conditioning, and (3) at the beginning of the fall semester. The same investigators conducted the tests identically at all three administrations. The test items used to measure physical fitness were pull-ups, two-minute timed sit-ups, untimed sit-ups, 40-yard shuttle run, standing broad jump, 50-yard dash, 300-yard shuttle run, and the 600-yard run. The authors considered that these items would measure most of the components of physical fitness: strength of different areas of the body, agility, speed, coordination, muscular explosiveness, muscular endurance, and cardiovascular-respiratory endurance.

The physical conditioning program consisted of one hour of calisthenics, running, and other physical activity six days a week during the six weeks of the program. The students enrolled in the first term of summer school had a ten-week lapse between completion of the conditioning course and retesting in the fall. The students enrolled in the second summer session had a four-week lapse.

Means and standard deviations of the physical fitness measures for each series of tests were computed; the means appear in Tables 1 and 2. Analyses of variance of fitness scores before and after the training program and after the respective lapse of training were performed. The results are summarized for each group in Tables 1 and 2. The tables indicate the levels of confidence at which conclusions were drawn regarding the differences between means.

There were significant gains by both groups during the training period on all the measures of fitness. After the lapse of training both groups showed a significant decline in performance on sit-ups (timed and untimed), standing broad jump, and the 600-yard run. Four weeks after conditioning no significant decline was indicated on pull-ups, 50-yard dash, 40-yard shuttle run, or the 300-yard shuttle run. Ten weeks after conditioning, however, significant decline was noted on all but pull-ups and the 40-yard shuttle run. Not accounted for was the significant improvement shown by Group II on the 40-yard shuttle run after the four-week lapse in training.

## TABLE 1
## GROUP I—TEN WEEK RETEST LAPSE (N = 64)

| Fitness Measures | Means at Beginning | Means after Training | Differences—Beginning to End of Trng. | Means After Ten Weeks Lapse | Differences—End of Trng. to Follow-up |
|---|---|---|---|---|---|
| Pull-ups | 7.91 | 10.81 | $2.90^c$ | 9.91 | − 0.90 |
| Timed Sit-ups (2 min.) | 51.88 | 65.16 | $13.28^c$ | 56.98 | $-8.18^c$ |
| Untimed Sit-ups | 73.08 | 104.94 | $31.86^c$ | 89.58 | $-15.36^b$ |
| 40-yd Shuttle (sec.) | 10.15 | 9.65 | $0.53^c$ | 9.69 | − 0.04 |
| Standing Broad Jump (inches) | 85.38 | 89.11 | $3.73^b$ | 86.03 | $-3.08^a$ |
| 50-yd. Dash (sec.) | 6.75 | 6.48 | $0.27^c$ | 6.84 | $-0.36^c$ |
| 300-yd. Shuttle Run (sec.) | 54.62 | 51.55 | $3.07^c$ | 54.06 | $-2.51^c$ |
| 600-yd. Run (sec.) | 108.83 | 100.34 | $8.49^c$ | 113.95 | $-13.61^c$ |

*Note:* Running measures are reflected for consistency of interpretation. [a]differences significant beyond 0.05 level of confidence; [b]differences significant beyond 0.01 level of confidence; [c]differences significant beyond 0.001 level of confidence.

## TABLE 2
## GROUP II—FOUR WEEK RETEST LAPSE (N = 67)

| Fitness Measures | Means at Beginning | Means after Training | Differences—Beginning to End of Trng. | Means After Four Weeks Lapse | Differences—Eng. of Trng. to Follow-up |
|---|---|---|---|---|---|
| Pull-ups | 7.06 | 10.30 | 3.24[c] | 9.90 | - 0.40 |
| Timed Sit-ups (2 min.) | 48.85 | 61.60 | 12.75[c] | 55.48 | - 6.12[b] |
| Untimed Sit-ups | 65.46 | 95.91 | 30.45[c] | 82.61 | -13.30[a] |
| 40-yd. Shuttle (sec.) | 10.18 | 9.96 | 0.22[a] | 9.75 | 0.21[a] |
| Standing Broad Jump (inches) | 83.97 | 88.81 | 4.84[c] | 84.63 | - 4.18[b] |
| 50-yd. Dash (sec.) | 6.99 | 6.80 | 0.19[a] | 6.83 | - 0.03 |
| 300-yd. Shuttle (sec.) | 55.16 | 53.42 | 1.74[b] | 54.00 | - 0.58 |
| 600-yd. Run (sec.) | 107.73 | 103.63 | 4.10[a] | 114.22 | -10.59[c] |

*Note:* Running measures are reflected for consistency of interpretation. [a]differences significant beyond 0.05 level of confidence; [b]differences significant beyond 0.01 level of confidence; [c]differences significant beyond 0.001 level of confidence.

It can be concluded from this study that very substantial improvements in varied aspects of physical fitness can be attained during a few weeks of intensive conditioning. It may also be concluded that declines from these peaks of fitness occur even during a brief period of relative inactivity and that these declines tend to be greater for a ten-week period than for a four-week period. This would indicate that conditioning more intense than normal daily activity must be continuous in order to maintain a high level of most of the components of physical fitness.

# Use of Fins in Teaching the Crawl Kick to Beginning and Intermediate Swimmers[1]

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JEFFREY LICHTER
Hunter College

A number of authors have commented upon the use of fins as an aid in the teaching of the crawl kick. Douglas indicates that fins are a great motivator for beginners because they provide early success, visible progress, and a pleasant experience. On the other hand, Smith feels that if the kicking technique is already perfected the fins can perform wonders, but that if the technique is not perfected they will be of little or no assistance. The *American Red Cross Instructor's Manual* states that students learning the flutter kick are amazed at their progress after using the fins for a period of time. Kiphuth points out two positive values in the use of fins: 1. Because of their flexibility and extensive surface the fins increase the propulsive power of the legs tremendously and illustrate to the swimmer the great part loose ankle whip and the broad surface of the foot play in the leg drive. 2. The added friction and the greater amount of resistance to be overcome place a heavier load on the legs, thereby increasing the strength of the leg drive.

No experimental studies on the use of fins as a teaching aid have been reported in the literature. In fact, a summary of needed aquatic research compiled by the Women's National Aquatic Forum in 1956 specifically mentioned the use of fins and other teaching aids as a profitable area for future research. It was the purpose of this study to test the effectiveness of fins as an aid in teaching the crawl kick to beginning and intermediate swimmers.

## Procedures

The subjects for this study were male students enrolled in three beginner and three intermediate swimming classes at Hunter College. All male students are given a swimming classification test upon entrance to Hunter. Those unable to swim 25 yards, half crawl and half backstroke, are classified as beginners. Students who complete the 25 yards in the required manner, but who have poor form and low overall water strength are classified as intermediates. The intermediates cover a fairly wide range since the next course in the sequence is lifesaving which requires a good deal of water ability. However, almost all of the intermediates have never had formal instruction. The classifiers are faculty members with years of experience in teaching swimming.

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[1] Bibliography and tables may be obtained from the author upon request.

The beginners classes were randomly assigned to three treatments: fins, no fins, and combination. The same procedure was followed for the intermediate swimming classes. The experiment was conducted for the first four swim sessions of the semester and, except for the use of fins, the procedures were the same for all six classes. During the first session each class was given a five minute lecture on the crawl kick. Instruction consisted of a brief statement describing the up and down movements of the leg, including the relative contributions of the hips, knees, and ankles. The subjects were also told how to hold the kickboards which were used during all testing and practicing. Each subject was then tested on how far he could kick in one minute, with scores recorded to the nearest foot. The score was recorded at the heels of the kicker when the one minute period elapsed. If anyone failed to kick for the entire minute his score was marked by where his heels were when he stopped. If anyone broke into a different kick (scissors or breast stroke) only the crawl kick was scored.

After each subject was tested the practice period began. The practice consisted of three one-minute kicking periods with approximately two minutes rest between periods. At this time the fins groups used fins when kicking, the no fins group did not use fins, and the combination group used fins only on the second day of practice. During the practice sessions the subjects swam widths (25 feet) of the pool. The procedure was identical for the next two swim sessions. The daily instruction period included points designed to correct common mistakes observed on the previous day. This instruction varied from day to day but was the same for all classes. On the fourth day the final test was given at the beginning of the period.

In order to determine whether significant improvement in the kick was made by each of the six groups involved in the study, *t* tests for matched groups were utilized in within group comparisons. Since the expected direction of change in a learning experiment is positive, one-tail tests of significance were used in these comparisons. In order to test the effect of the use of fins, an improvement score for each individual was derived by subtracting his initial test score from his final test score. Then analyses of variance were calculated separately for the intermediate swimmers and the beginning swimmers.

## Results

All six subgroups improved significantly ($p < .05$) in the crawl kick as a result of three days' practice and instruction.

In the between group comparisons, no significant differences between improvement scores was obtained for either the beginning or intermediate swimmers ($p > .05$). However, a plotting of the improvement scores of the intermediate swimmers indicates a trend in favor of the fins group, followed by the combination group, with the no fins group showing the least improvement of all.

## Discussion

In using aids when teaching swimming one factor which must be considered is whether the aid itself is useful for mechanical reasons. That is, does the use of fins tend to force the student's kick into the proper pattern, thereby enhancing his efficiency when the fins are removed? When using fins, maximum speed is developed when (1) the ankles are used in as flexible a manner as possible, (2) power is sought on both the up and down motions of each leg, (3) the legs are kept near but not above surface level, and (4) the knees are kept flexible and loose without bending very much. Of course, it is apparent that these actions are also desirable when kicking without fins. This implies that some mechanical benefits may accrue from the use of fins. However, this study found that the intermediate swimmers using fins did not improve significantly more than the intermediate subjects not using fins. However, a trend in favor of the fins group was noted. This implies that whatever mechanical advantage the use of fins may have as a learning aid does not clearly appear after three practice sessions of the type conducted in this study. Perhaps significant differences might appear in an experiment which lasts for a longer period or which uses longer or more intense practice sessions.

For beginning swimmers, learning aids might be expected to increase confidence and enjoyment, thereby having beneficial learning effects. For example, Kaye found that the use of a waist type flotation device was beneficial in teaching beginners to swim. However, the present study found no positive effect by beginning swimmers as a result of using fins. This is not to say that other benefits may not have been derived from their use. Certainly, it was apparent that the subjects enjoyed the experience of moving rapidly through the water with little effort. Some of the difficulties which arose with the beginners had to do with fear of the water. Some of them stiffened up considerably when approaching the deep water. This may have resulted in lower test scores. And this factor was hard to predict since a splash of water was often sufficient reason for the subject to grab the side of the pool, thereby terminating the test. These difficulties, plus the small number of beginner subjects involved in this study, emphasize the need for further research in this area.

The field of swimming can certainly profit from further research. Future research in the use of fins should vary the length, intensity, and number of practice sessions, vary the criterion tasks, and determine the effects on various swimming ability levels, from beginners to competitors.

# The Graduate Record Examination and Advanced Physical Education Test as Predictors of Success in a Master's Degree Program

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San Jose State College

Acting upon a recommendation of a subcommittee of statewide graduate deans in May 1960, the San Jose State College Graduate Division replaced the Miller Analogies Test with the Graduate Record Aptitude Examination as a requirement for its graduate students. Under this requirement, no student could be advanced to candidacy for a master's degree until he had completed the examination. Since no collegewide standards have been established with respect to the examination, it has been little more than an administrative requirement and, except for several departments, there has been no minimum score required for admission to or retention in masters programs. To be sure, many advisors were cognizant of test scores in their counseling of graduate students, and in this regard the test often served a useful purpose.

In July 1963, the Men's Physical Education Department Graduate Committee voted to require completion of the Advanced Physical Education Test[1] by all who applied for admission to candidacy for the Master of Arts degree in that department. To the present time, the test has been used in much the same manner as the Graduate Record Examination.

Prior to the 1966 summer session, the department graduate committee voted to undertake a project designed to evaluate the effectiveness of these two tests as predictors of success in the department's Master of Arts degree program.

## Procedure

Data were compiled for all students [illegible] the department's Master of Arts degree program for whom Graduate Record Examination scores were available.[2] Included were 216 students in three categories: degree completed, inactive, and active. Seventy-seven of these had also completed the Advanced Physical Education Test.

A decision had to be made as to the criteria to be selected as representative of success in the program. One criterion, satisfactory completion of the program, was applicable to those eighty-six students who had received their degrees. For the remainder two criteria, grade-point average in all courses completed since receipt of the baccalaureate and grade-point average in graduate courses in physical education, were selected. Those with grade-point averages of 3.00 or above were tentatively classified as successful and those below 3.00 were tentatively classified as unsuccessful.

Correlation coefficients were computed[3] on an I.B.M. 1620 computer between all paired combinations of four variables: (1) total Graduate Record Examination Aptitude score, (2) postbaccalaureate grade-point average, (3) physical education graduate course grade-point average, and (4) Advanced Physical Education Test score. Data were also analyzed to ascertain if critical scores on either of the tests could be identified as reliable predictors of success in the department Master of Arts degree program.

## Results

Correlation coefficients between the paired variables (Table 1) were in substantial agreement with those of similar comparisons conducted by the College Test Office on data compiled for several other departments.

Obviously, none of the correlation coefficients between test scores and grade-point averages is sufficiently high to be predictive.

When test scores were analyzed for the eighty-six who had completed the degree program, it was noted that only seven had Graduate Record Examination scores below 700. Only one of twenty-one in the degree-completed category had an advanced test score below 430. Although no one in the degree-completed category had a combination of GRE below 700 and advanced test below 430, it must be remembered that only one of the seven with a GRE below 700 also completed the advanced test. The mean GRE score for the eighty-six was 880. The mean advanced test score for the twenty-one was 515.

Among those currently active (N = 126), twenty-six have GRE scores below 700. Of these only six have postbaccalaureate grade-point averages of 3.00 or higher. Sixteen have advanced test scores under 430 of whom five have grade-point averages of 3.00 or higher. Six have both scores under the respective critical values (GRE—700 and advanced test—430)

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[1] Developed by a committee of the AAHPER composed of A. A. Esslinger, H. K. Jack, L. A. Larson, M. G. Scott, and J. H. Shaw and administered by Educational Testing Service, Princeton, New Jersey and Berkeley, California.

[2] Data were compiled by James A. Yelton, Cubberly High School, Palo Alto, California.

[3] Under the direction of Curtis Stafford, college testing officer.

## Table I
## Relationship Between Paired Variables

| Factor | N = 216<br>2 | 3 | N = 77<br>2 | 3 | 4 |
|---|---|---|---|---|---|
| 1–GRE aptitude, total score | .203[b] | .138[a] | .204 | .261[a] | .606[b] |
| 2–Post baccalaureate gr.-pt. av. | | –.004 | | .697[b] | .315[b] |
| 3–Grad. phys. educ. gr.-pt. av. | | | | | .250[a] |
| 4–Adv. Phys. Educ. Test | | | | | |

[a] significant at .05
[b] significant at .01

of whom only one has a grade-point average of 3.00 or higher. The mean GRE score for the 126 currently active is 821. The mean advanced test score for sixty-three currently active is 458.

### Conclusions

1. A possible limitation of the analysis is the tests' lack of direct importance upon a student's status and the resultant unknown effect of this factor upon student motivation.

2. Scores below 700 on the Graduate Record Aptitude Examination and below 430 on the Advanced Physical Education Test serve as reasonably reliable indicators of student failure in the Master of Arts degree in physical education for men program at San Jose State College.

# Professional, Semiprofessional, and Nonprofessional Teacher Tasks Performed by Teachers of Boys Physical Education in Two California High School Districts[1]

**JOHN C. GILMORE**
Stanford University

It appears that teachers in all subject areas, including physical education, spend considerable time performing tasks of a "subprofessional" nature. For physical educators, whose subject matter itself is often questioned for its place in an academic framework, this matter of subprofessional tasks is a doubly important one.

If, indeed, physical educators are among those teachers who do spend as much as one-third to two-thirds of their time performing tasks of a subprofessional nature (as some writers have suggested), then perhaps such teachers should be paid less salary or should receive less training, or both. While this is a suggestion some critics might prefer, it is one not likely to improve the educational services to students.

To investigate this problem in the area of high school physical education, it appeared necessary (1) to have a list of the specific teaching tasks of a high school physical educator, (2) to classify these tasks as "professional" or "subprofessional," and (3) to determine how much time a typical physical educator spends on these so-classified tasks. In order to accomplish step (2), it would be necessary (4) to develop criteria which might be used to classify the tasks in an objective manner.

## Purpose

This study was designed (1) to identify the tasks which are typically performed by teachers of high school boys physical education, (2) to classify each of the identified tasks as "professional," "semiprofessional," or "nonprofessional," according to criteria developed in the study, and (3) to indicate how much time the physical education teachers in two selected high school districts typically spend on professional, semiprofessional, and nonprofessional tasks. Since the criteria developed to classify the tasks were intended to be a creative aspect of the study, an evaluation of these criteria was also included. Interscholastic coaching tasks were excluded from this study.

## Design

The list of tasks was developed from the investigator's own experience, from relevant literature, and from suggestions of other physical educators.

The criteria were developed by the investigator from literature which included definitions and discussions of a "profession" and of a "professional worker." The criteria were, in effect, definitions of professional, semiprofessional, and nonprofessional tasks.

The classification of tasks (as professional, semiprofessional, or nonprofessional) was accomplished by the investigator, by a jury using the investigator's criteria, and by a jury using independent judgments (not the investigator's criteria). The final classification of each task was determined by the majority judgment of the total group of raters (five in each jury, plus the investigator).

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[1] A list of criteria for professional, semiprofessional, and nonprofessional tasks and tables of findings may be obtained from the author upon request.

The time-spent-on-tasks information was gathered from high school physical educators from two California high school districts. Time was recorded for one seven-day week in "diary" fashion, using an "a priori" list of tasks provided by the investigator.

The classification of tasks and the gathering of the time information were independent operations, with different people involved.

Evaluation of the criteria was provided by intrajury and interjuries comparisons of classifications.

## Findings

1. There were 68 tasks found to be performed by the surveyed group of high school physical education teachers. These tasks were arbitrarily identified in the following "operational" task groups: preparing for class (3 tasks), conducting the class (11), supporting the class work (24), administering the program (8), counseling students (6), community relations (3), faculty member (3), miscellaneous (4), profession member (5), and personal physical fitness (1).

2. Out of 60 subjects solicited, 39 reported that during the actual week of recording, they spent 49 percent (group mean) of their time on professional tasks, 20 percent on semiprofessional tasks, and 31 percent on nonprofessional tasks.

3. The group of subjects reported that, by recording and by estimation, they spend 49 percent of their time on professional tasks, 24 percent on semiprofessional tasks, and 27 percent on nonprofessional tasks.

4. Adding the time spent on tasks performed irregularly during the year to that typically spent, the reporting group performed 54 percent of their time on professional tasks, 21 percent on semiprofessional tasks, and 25 percent on nonprofessional tasks.

5. The classification jury using the investigator's explicit criteria agreed 100 percent on 38 tasks, 80 percent on 19 tasks, 60 percent on 10 tasks, and disagreed on 1 task. The classification jury using no explicit criteria agreed 100 percent on 21 tasks, 80 percent on 24 tasks, 60 percent on 19 tasks, and disagreed on 4 tasks.

6. The two classification juries agreed 100 percent (5 agreements out of 5 in each jury) on 17 tasks, 80 percent (4 out of 5 agreements in each jury) on 24 tasks, 60 percent (3 out of 5 agreements in each jury) on 15 tasks, and reached no agreement on 12 tasks.

## Conclusions

1. The specific tasks performed by high school physical education teachers can be identified.

2. These identified tasks can be grouped into "functional" categories which correspond to a rating of professional, semiprofessional, or nonprofessional:

   a. Professional tasks: planning, evaluating, and administering (14); professional instruction (4); counseling and guidance (5); faculty member (4); community relations and service (3); profession member (6); personal physical fitness (1).

   b. Semiprofessional tasks: technical instruction and assistance (11); supervision of student activities (1).

   c. Nonprofessional tasks: passive supervision of students (4); clerical operations (13); custodial and maintenance operations (2).

3. Consensus in classifying physical education teacher tasks as professional, semiprofessional, or nonprofessional can be obtained among a group of educators and physical educators. Slightly greater agreement can be obtained from the use of explicit, stated criteria than

by the use of personal judgments without explicit criteria. Comparison of the jury which used the criteria with the jury which did not suggests that the criteria are helpful but not absolutely essential in achieving consensus in distinguishing between professional, semiprofessional, and nonprofessional tasks.

a. Although the sizes of the two juries were small, the amount of agreement which the jury using no criteria was able to obtain suggests that people who are involved with or concerned about physical education are able to arrive at judgments of physical education teacher tasks as professional, semiprofessional, or nonprofessional which are not dissimilar. They seem to have a "built-in" sense of what the profession accepts as professional, semiprofessional, and nonprofessional.

4. The three kinds of tasks—professional, semiprofessional, nonprofessional—as defined by the criteria, suggest that corresponding kinds of workers could more appropriately perform the respective tasks than do the present "all-professional" workers in the physical education field. Were these kinds of workers actually differentiated in the staff of a physical education department, there would be professional teachers, semiprofessional or technical assistants, and one or more types of nonprofessional workers. From a theoretical point of view, then, a physical education department in a high school might be staffed by professional teachers who would be utilized in professional tasks much more than the 49–54 percent suggested by this study. They could be assisted by semiprofessional assistants who would work the 20–25 percent of the time now spent on semiprofessional tasks. And various clerks, custodians, and maintenance personnel could perform the tasks which normally take from 25–31 percent of the present "professional" physical educator's time.

## Recommendations

On the basis of the findings and subsequent analyses thereof in this study, the investigator makes the following recommendations:

1. The physical education profession should become more acutely aware of the specific duties and kinds of duties which it expects its high school members to perform as "professionals." Individual members should be conscious of the professional, semiprofessional, and nonprofessional tasks which they perform, and they should make every effort possible to delegate semiprofessional and nonprofessional tasks to types of personnel which correspond to the types of tasks to be performed. Where these differentiated types of personnel are not available, the profession and its members should do everything within its powers to make such types of personnel available to a high school physical education department.

2. Individual physical educators should have in their minds a set of criteria for professional tasks. The criteria may be the ones suggested by this study, or ones developed by the individual, or even implicit ones. But such criteria should be used as continuous guides in the performance of the various tasks by the physical educator. He may, by the manner of execution of a task—that is, by performing it to the strictest fulfillment of each criterion—make that task a more professional one, and in the same manner, make himself a more professional performer.

3. The list of tasks, grouped by their classifications, and the set of criteria might be used by teacher education institutions to give the teacher-trainee a clearer picture of the duties he can expect to perform, and how he might perform them more professionally and more efficiently.

4. Physical educators should consider the possibility, suggested by the process of classifying tasks by the criteria in this study, that the teaching of a specific sports skill may be a semiprofessional task which can be adequately or even optimally performed by a technician. The mere teaching of sports skills may not meet the requirements for a professional task. The teach-

ing situation is made professional, and may require a professional person, only by the following two elements which are present in the school physical education classes:

a. The constant existence of the possibility of need for counseling, guidance, and direction of child growth and development—physically, mentally, emotionally, socially, morally.

b. The need, in a single individual-teacher working in an involuntary group teaching situation, for diversity of talent, the acquisition of which requires extensive preparation—in subject-matter, in human understandings, and in teaching methodology.

## Summary

Thirty-nine high school physical educators reported 49–54 percent of their time spent on professional tasks, 20–24 percent on semiprofessional tasks, and 25–31 percent on nonprofessional tasks. Explicit classification criteria were found to be helpful but not indispensable in classifying the tasks. Differentiation of personnel, according to the classification of tasks to be performed, is recommended.

It is hoped that the findings, conclusions, and recommendations of this study will stimulate the thinking of physical education teachers and physical education teacher-educators toward a consideration of what the high school physical educator does and why, and how he can do his job more efficiently and more professionally.

# A Comparison of Men's Attitudes Toward Physical Education in 1956 and 1965

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The present problems were to compare current attitudes toward required physical education and related matters with those presented in the 1956 study by Litater, and to compare attitudes of students taught by full-time and part-time staff members.

## Method

The 1956 questionnaire was administered once without follow-up toward the end of the spring semester of 1964–65 to men enrolled in physical education service courses. The net enrollment was 5181, but 271 finished ice skating classes in midsemester, and absences reduced the respondents to 4213 for an 81.3 percent return. Questions 1 to 4 and 6 had three choices. "Yes" was treated as one category and "No," "Not Sure," and no answers were combined as "No," so that significance could be tested with chi square at the .01 level with one degree of freedom. Questions 5 and 7 to 10 had choices from 0 to 8 courses, semesters, or hours/week. These were compared on the basis of the plurality and the percentage above or below the most frequent choice. Comparisons were made in terms of total groups and by colleges (agriculture, commerce, engineering, F.A.A., L.A.S., and "other"). Similar comparisons were made for the 1965 sample in terms of whether they were taught by full-time or part-time staff members.

## Results

The need for regular physical activity (Q1) showed a significant increase from 92.3 percent in 1956 to 95.6 percent in 1965. The need for physical education (Q2) had a significant decrease from 76.5 percent to 69.0 percent. The attitude toward university responsibility for providing physical education (Q3) decreased significantly from 94.9 percent to 92.5 percent but was still strongly favorable. The percentage favoring a physical education requirement for graduation (Q4) dropped nonsignificantly from 61.8 percent to 59.2 percent and those favoring academic credit for physical education dropped significantly from 69.6 percent to 57.3 percent. The plurality choice for the number of required courses (Q5) was for four semesters on both surveys but the majority shifted from 51.3 percent favoring three or less courses in 1956 to 56.2 percent favoring four or more in 1965. The plurality choice if academic credit were given but physical education were not required (Q7) was again four semesters but 2.5 percent more chose four or more semesters in 1965. If academic credit were not given and physical education were not required (Q8) the plurality on both surveys favored zero semesters, although fewer favored zero semesters (28.8 percent in 1956 and 25.8 percent in 1965), and those favoring two and four semesters approximated those favoring zero. The average hours/week in intramurals (Q9) showed a plurality for zero hours but the percentage indicating from one to eight hours increased from 57.1 percent to 61.2 percent. The plurality for hours/week in active recreation outside of intramurals was for two hours but the percentage reporting more than two hours/week increased from 71.4 percent to 77.4 percent. Students in the separate colleges tended to show these trends. Sutdents under full-time instructors (905) showed consistently more favorable responses to the "Yes-No" questions and significantly better for Q2 and Q3. The "0 to 8" questions showed a similar trend and the comparisons by colleges tended to follow the general trend.

## Conclusions

1. Very high percentages (over 90 percent) indicated a need for physical activity on both surveys and favored the university's providing physical education, with the "need" increasing significantly in 1965 and the "providing" decreasing significantly.

2. Appreciable majorities needed physical education (69.0 percent) favored a requirement for graduation (59.2 percent) and favored academic credit (57.3 percent), although the percentages were lower in 1965 than in 1956.

3. The plurality favored a four-semester requirement, with a slight majority favoring less than four courses in 1956, and 56.2 percent favoring four or more in 1965. But a majority of 55.2 percent in 1956 and 57.9 percent in 1965 would take four or more semesters if academic credit were given but physical education were not required. Not giving academic credit and not requiring physical education dropped the plurality choice to zero hours, but 66.2 percent in 1956 and 70.3 percent in 1965 would take two or more courses.

4. The attitudes under full-time instructors were slightly more favorable.

5. More students were participating in intramurals but still more participated actively outside of intramurals in 1965.

# The Effect of Selected Pace Variations on the $O_2$ Requirement of Running a 4:37 Mile[1]

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It is a commonly accepted physiological principle that the maximum speed at which one can perform middle distance and distance races is limited by the rate at which the runner is able to supply oxygen to the muscles and the energy his body is capable of furnishing through anaerobic metabolism during the time of the run. The validity of this principle was first established by Hill, who measured the oxygen intake and oxygen debt capacities of leading runners and predicted existing world record times on the basis of oxygen requirement (oxygen intake plus oxygen debt) and speed of running. Sargent continued this work by establishing a direct relationship between oxygen requirement and speed of running. It was demonstrated that the oxygen requirement increased geometrically with respect to increase in speed of running within the range studied (5–9 yards per second). Sargent also verified the validity of Hill's work when his subject's best times in distances from 300 yards to 2 miles were predicted very closely from the oxygen requirement as derived from his measured oxygen intake and oxygen debt capacities.

Track coaches differ in their teaching methods of the optimal method of pace during a middle distance race. Much of their advice appears to be based on empirical grounds rather than inferences from scientific data. The most frequently advised pace patterns for the 1-mile run have been (a) steady, (b) fast-slow-fast, and (c) slow-fast. The objective of this study was to determine which, if any, of these frequently recommended patterns requires less oxygen for running a mile in 4:37.

## Method

Nine college and postgraduate middle distance runners, whose mean best mile time for the season was 4:21.9 (range, 4:15.9–4:29.7), served as subjects in a series of experiments on a motor driven treadmill. A mile run in the time of 4:37 was used because it represented a near maximum effort for the subject with the slowest mile time, and because Robinson had suggested that a fatigue factor inherent in exhausting runs ought to be considered in addition to the speed factor in assessing the oxygen requirement for competitive running.

Each subject completed three experimental runs, with the individual order of runs controlled to prevent bias in this respect. The steady pace run (plan 1) consisted of a constant 69.25 seconds per 440 yards pace throughout, while the fast-slow-fast run (plan 2) involved consecutive 440 yards times of 64, 73, 73, and 67 seconds, and the slow-fast run required 440 yards times of 71, 71, 67.5, and 67.5 seconds, respectively. All runs were conducted in an air-conditioned laboratory (maintained at moderate temperature conditions) beginning between 7:00 and 8:00 a.m. The subjects spent the night prior to each run in a room within the laboratory and were in the postabsorptive state before each run. A warm-up consisting of easy running at 190 meters per minute for 5 minutes and a 30-second run at 348.6 meters per minute preceded each run.

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[1] This report represents a portion of a primary investigation to be published by the author and E. M. Bernauer. Bibliography and tables available from the author upon request.

Heart rate was monitored by an Offner Dynograph, while pulmonary ventilation was measured by use of a Collins triple J valve attached to a Parkinson-Cowan, type CD4, high speed gas meter. Samples of expired air were secured by glass syringe from a plastic mixing chamber during the runs and from a series of Douglas bags during recovery. All gas analyses were performed on a Beckman D2 oxygen analyzer in tandem with a Godart Pulmoanalyzer, type 44A-2.

On the evening prior to the first experimental run, several basic body measurements, including body density determination via underwater immersion (Goldman and Buskirk), were taken. Residual air volume was estimated from the measured vital capacity by Brozek's equation for young men.

It has been observed previously that the resting oxygen consumption level is elevated with exercise, and does not return to the pre-exercise level after severe work for several hours, if then. A period of 1-1/2 hours has been used traditionally to determine oxygen debt when calculating oxygen requirement for severe work (Hill, Margaria, Dill, and Robinson). In this study, recovery oxygen consumption values for the period 30–90 minutes were extrapolated from measured values between 0–30 minutes recovery to a point 7 percent (.020 liter per minute) above the pre-exercise resting level (Hill, Sargent, and Dill).

The *t* test for mean differences of paired groups (Edwards) was used to determine if significant differences existed in the measurements taken during the three runs.

## Results and Discussion

The runners used in this study evidenced mean height and body weight very near that of normal young men of their age. However, relatively high vital capacity and body density and low body fat values were observed.

There was no significant difference between the oxygen intake values for the three plans. This confirms the findings of Robinson in a similar experiment, and reflects the fact that the total energy requirement for each plan was greater than the subjects' oxygen intake capacities. A significantly lower value in the net recovery oxygen consumption (oxygen debt) for plan 1 as compared to plan 2 and plan 3 was noted. Robinson also found a difference in the recovery phase, but in favor of a slow-fast pace plan over the steady-pace plan. In our study, it was also observed that the recovery heart rates tended to be lower for the steady-pace plan in the early and middle stages of recovery.

Plan 1 was observed to require significantly less oxygen (27.05 liters) than plan 2 (28.47) and plan 3 (28.35). No significant difference was noted between plans 2 and 3 in this respect. Hence, our results would appear to confirm the observations of Hill, Sargent, Christensen and Hogberg, and Henry, who suggested that steady-pace running was the most economical means of utilizing one's energy reserves in competitive racing.

Robinson found that, as fatigue products accumulated rapidly near the end of an exhausting run, the rate of oxygen requirement also increased. On the basis of this finding and the further observation that a slow-fast pace plan required less oxygen than the steady-pace plan, they reasoned that the former method would be the better plan since it would tend to delay build-up of fatigue products until later in the run. Only one of our subjects showed a lower oxygen requirement for the slow-fast as compared to the steady-pace plan. Robinson and his co-workers, however, stipulated that this relationship would not be clearly evidenced except in extremely fatiguing runs (blood lactic acid levels in excess of 150 milligram percent). While our runners were not exhausted at the end of their runs, most of them developed significant oxygen debts that indicated impending exhaustion. Thus, our results appear to contradict those of Robinson, who studied only two subjects and felt that experiments on other subjects would be required to determine the extent of variability in their hypothesized relationship of lower energy expenditure for runs performed with slow start and fast finish.

### Conclusions

On the basis of the results of this study, the following conclusions appear to be substantiated:

1. Pace variation at speeds requiring oxygen at rates substantially above the subject's oxygen intake capacity do not significantly alter the net oxygen consumption during the run.
2. Pace variations from a steady-pace of the order used in this study result in significantly higher net oxygen consumption in recovery.
3. The steady-pace plan is the most efficient means of utilizing one's energy reserves and, hence, physiologically best for accomplishing the fastest time in a middle distance run.

# A Comparison of Isotonic and Isometric Exercises in the Development of Muscular Strength

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Heavy resistive exercises are used extensively in present-day training programs as a means of conditioning the muscles of individuals for participation in vigorous physical activities. This practice is based on the concept that muscle must be overloaded in order to improve strength and that an appropriate level of strength is fundamental to successful performance of physical activities. In the past decade both isotonic and isometric exercises have been used for the purpose of training muscle strength, and although much has been learned about strength development from research and practical experience, many questions remain unanswered as to the effectiveness of the two methods for improving strength. Physical educators and physiologists have continued in their search for conclusive evidence as to the most effective method of muscle training and to ways by which these methods can be adapted to practical situations for the training of man. Little attention, however, has been given to the degree and rate of strength development as it is related to initial strength, or strength present at the beginning of training, or to change of exercise treatment when increase ceases and the training contraction becomes ineffective.

### Purpose

The purpose of this investigation was to determine the effectiveness of isotonic and isometric contractions as training stimuli in the development of muscular strength for individuals with different levels of strength. Specifically this study was concerned with—

1. The comparison of the two resistive exercise methods in the development of muscular strength of individuals with relatively low levels of strength.

2. The comparison of the two resistive exercise methods in the development of muscular strength of individuals with considerably high levels of strength.

3. The applicability of changing from one exercise method to the other as strength of an individual increases during a period of training. For example, would it be best to change to isotonic contractions for an individual whose strength status has changed from relatively little to a considerable amount during a training period in which isometric contractions were used?

## Subjects

Subjects for the study were 148 male students enrolled in the required physical education program at the University of Texas during the spring semester of 1964–65. Each subject volunteered to participate in the experiment, and insofar as possible, individuals were assigned to one of four exercise groups on the basis of indicated interest in a particular training method. For the purpose of exercise training the subjects were placed in one of the following groups:

Group I Trained by the isometric method for a period of ten weeks
Group II Trained by the isometric method for five weeks and then changed to the isotonic method for five weeks
Group III Trained by the isotonic method for five weeks and then changed to the isometric method for five weeks
Group IV Trained by the isotonic method for a period of ten weeks

The subjects in each exercise group spent approximately forty-five minutes during each class period in the performance of the exercises. Each individual was encouraged to refrain from any other heavy physical activity outside the class during the course of the training period. The subjects in each group performed all exercises on Monday, Wednesday, and Friday of each week for a period of ten weeks. Each exercise group followed a training regimen designed to develop all muscle groups in the body. In both training regimens specific exercises were used for development of those muscles upon which measurements of strength were taken.

## Exercise Methods

For the purpose of training muscle strength in this study both isometric and isotonic contractions were used as a means of placing overload on the working muscles.

In the isotonic method the subject lifted heavy weights through a specified range of motion. All exercise movements were performed with a weight that could be lifted only five times through the complete range of motion for each exercise. The progressive resistive procedure was followed throughout the training period whereby additional weight was added to the lift as the muscle gained in strength. In this training program weight was added each time the subject was able to perform more than five repetitions of the exercise.

In the isometric method the subject exerted a maximum contraction for six seconds against a resistance that did not allow movement or shortening of the muscle. The resistance in the isometric method was provided by a strap that furnished an immovable resistance at a specific position in the range of movement for the isotonic method. Each exercise was performed at this position with three six-second maximal contractions.

## Tests

The measures of muscle strength for this investigation were obtained before, at the middle, and at the end of exercise training through the use of an aircraft cable tensiometer. The tests used were selected for the purpose of determining the strength of muscles involved in the coordinated action of—

1. Arm flexion and forearm extension
2. Arm extension and forearm flexion

3. Thigh extension and leg extension
4. Trunk flexion

In this method of testing, the subject used the muscles involved in the specific movement to exert pressure against a cable. The tensiometer revealed the tension developed in the cable and thus the strength of the muscles involved in a specific movement at one point in the range of motion. The subject took two trials on each test with thirty seconds rest between trials. Both trials were recorded and the better of the two was used as the score.

### Statistical Procedures

The major statistical task in this investigation was to discover whether or not significant differences in muscular strength existed in the various exercise groups as a result of having trained the subjects by different methods of muscular contraction. The results of training were interpreted on the basis of findings revealed by the multiple linear regression analysis and through an examination of changes in subjects' strength as related to initial status.

Regression models adapted for use on a Control Data Corporation 1604 computer were used for all the multiple linear regression analysis reported in this study. Regression analysis is an estimation or prediction of the value of one variable from the values of other given variables and this technique allows for the evaluation of all pertinent influences impinging upon the variable in question. Just as any variance analysis, the multiple linear regression technique is based on the concept of "error sum of squares" and indicates the relationship between a criterion or dependent variable and the predictor or independent variable.

In order to analyze the data in terms of the purpose stated for this investigation, certain problems involving categorical information with an underlying hypothesis were postulated. The data related to these questions at issue were interpreted on the basis of findings revealed through a comparison of applicable restricted regression models to full models related to mid-test and post-test scores. In this study two full models were constructed, one from post-test data and the other from mid-test data. Restricted models designed for specific questions were constructed by combining the variables containing scores of the groups in question, and these were compared with the appropriate full or unrestricted model. F-ratios computed from the obtained values of the error sum of squares for the full model and the appropriate restricted model were compared with tabled values of the F statistic to provide a basis for decisions concerning the various hypotheses.

### Analysis of Data and Interpretation of Findings

For the purpose of analysis, the data on each of the strength measures were grouped into first, second, third, and fourth quarter strength levels on the basis of the subject's initial status on the different strength tests. That is, each of the four exercise groups were divided into four subgroups on the basis of scores on the initial administration for each of the four tests of strength. Thus there were sixteen groups in the analysis for each strength test.

Treatment effects are reflected in the scores on the mid-test at the end of five weeks and those on the post-test at the end of ten weeks. The data examined by the multiple linear regression technique revealed no significant differences between isotonic and isometric contractions in the development of muscular strength either for the groups as a whole or for the different strength levels.

A tabular analysis was made to study individual responses to the different methods of training since the statistical technique of variance analysis did not reveal this kind of information. The information obtained through this analysis indicated that during the first five weeks of training more individuals gained strength through the isometric exercises than in the isotonic program. During the final five weeks most individuals who gained strength during the first five weeks continued to improve strength when they remained in the same program. Although an examination of individual changes within the various strength levels revealed no consistent pattern, it would appear that as individuals reached very high levels of strength, most continued to improve through the isotonic program.

From the findings revealed by the statistical technique used in this study it appears that there was no difference between the two methods of exercise employed to develop muscular strength. The analysis of individual responses indicates, however, in exercise programs where improvement in strength is a major objective that isometric exercises may be preferable inasmuch as this method of training apparently leads to maximum results in terms of individual improvement with a minimum of time and equipment involved.

On the basis of evidence revealed in this investigation and other related studies, it appears that trainability of muscular strength varies with individuals and that it is the strength of the training stimulus which is important in producing improvement in strength. There seemingly is no significant difference between the effectiveness of isotonic and isometric contractions as training stimuli. It may be assumed that as long as the training contraction is above the training threshold strength, improvement will result regardless of the kind of contraction used or the strength level of the individual. When the training contraction is below threshold value, either because of a weak contraction or because the strength level of the individual places the training threshold above the maximum strength of the training contraction, no improvement in strength results.

# A "Front End" Cardiovascular Efficiency Test[1]

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The purpose of this investigation was to develop a new test of cardiovascular efficiency. Validation of the test was to be accomplished by determining the reliability, objectivity, discrimination ability, and relationships to other tests which are presumably valid. It was also the intent of this study to investigate the relative effects of exercise on heart rates of 140, 160, and 180 heart beats per minute. Tests established for this purpose will be referred to as the Penman test A, Penman test B, and Penman test C, respectively.

Many tests have been devised to measure cardiovascular efficiency in order to differentiate between those individuals in poor physical condition and those individuals in superior physical condition. Among some of the more or less accepted tests are the Harvard step test, the Schneider test, the Barach index and the Tuttle pulse ratio test.

Most of these tests employ measurements of the return of pulse rate to normal following a designated amount of exercise. Matthews, Stacy, and Hoover feel that there is little, if any,

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[1] Arizona State University Research Grant # 5221-759.

correlation between ability to sustain maximal or exhausting work and the heart rate pattern during recovery. Another problem that has been prevalent in the administration of these tests is that of taking normal pulse counts by palpation. Slater, Hammel, and Butler found errors in taking pulse count by this method and these differences were sufficiently large to change the fitness classification of the individual.

Little has been written in the literature pertaining to the validity coefficients of these tests. In an investigation correlating fifteen different cardiovascular tests with cardiac output, Hunsicker found the following validity coefficients: Schneider test r = .39, simplified Tuttle r = −.32, and the Barach index r = −.50.

An additional indicator of cardiac tolerance for exercise is the measurement of work output at fixed elevations of heart rate. The use of the "front end" test or measurement at the beginning of the exercise period has been limited in the past by a lack of accurate measuring devices.

A survey by Clarke of the relationship between strength tests and cardiovascular tests found that approximately three-quarters of the correlation coefficients fell below .20.

Many people feel that an individual's performance on the Harvard step test is influenced greatly by his height and length of legs. Elbel found that subjects six feet or taller have an advantage over shorter subjects; however, leg length did not seem to influence performance. Keen and Sloan found that the result in the fitness index on the Harvard step test did not relate to the height, length of lower extremities, or to various anthropometric indices. These facts tend to leave some doubts in the minds of many professional people as to the validity of the twenty-inch bench test as a measure of cardiovascular efficiency.

Malhotra recorded pulse rates up to 150 beats per minute. He found that the relationship between pulse count and energy expenditure was linear up to this level and stated it is likely that such a relationship would exist for pulse rates up to 180 beats per minute, above which it tends to level off. Nagle and Bedecki found that the correlations between heart rate times and all-out run times increased with the heart rate. A correlation of .85 was calculated with the rage of 180 beats per minute. They also stated that the poorest trained subjects could not adapt adequately to the treadmill exercise used. For this reason, it was suggested that a more gradually increased exercise routine would allow for more precise measurement of circulorespiratory capacity, especially if the subjects are not in a trained state.

## Procedures

Twenty-three male students at Arizona State University were used as subjects for this study. Their ages ranged from 17 to 55, and their physical conditions varied from that of varsity track distance runners to those who appeared to be in very poor physical condition.

The tests administered were the Harvard step test, the Barach test, the Schneider test, the Tuttle pulse ratio test, and the Penman cardiovascular test (forms A, B and C). One of these tests was administered each day over an eleven-day period. In order to enhance reliability, the instructions for each of the tests were programed into a tape recorder. An electronic metronome was used to program the number of cycles per minute for each of the step tests.

The heart rate monitor, model #503, manufactured by Parks Electronics Laboratory, was utilized for the Penman cardiovascular test. In this test, three electrodes were attached to the subject while he was reclining. His heart rate was read directly from the heart rate monitor. The subject then stepped up and down on a nine-inch bench at a designated cadence until he was told to stop. The cadence began at a very slow pace of 15 cycles per minute (one cycle equals four steps, i.e., up up down down). At the end of each thirty-second period of stepping, there was an increase in the rate of stepping. There were a total of seven increases: 20 c/min., 25 c/min., 30 c/min., 35 c/min., 40 c/min., 45 c/min., and finally 50 c/min. The 50 c/min.

## Table 1
## Means And Standard Deviations (Parameters)

| No. | Parameter | Mean | Std. Dev. | No. | Parameter | Mean | Std. Dev. |
|---|---|---|---|---|---|---|---|
| 1 | Age | 25.47 | 7.40 | 13 | Penman IA | 126.87 | 69.48 |
| 2 | Height | 71.02 | 1.90 | 14 | Penman IB | 164.17 | 88.20 |
| 3 | Weight | 178.43 | 30.06 | 15 | Penman IC | 197.57 | 92.15 |
| 4 | Criterion | 199.87 | 47.75 | 16 | Penman 2A | 143.43 | 61.62 |
| 5 | Barach I | 152.02 | 30.72 | 17 | Penman 2B | 190.57 | 64.50 |
| 6 | Barach II | 147.70 | 34.17 | 18 | Penman 2C | 234.17 | 93.54 |
| 7 | Schneider I | 11.91 | 4.37 | 19 | Penman 3A | 159.57 | 52.91 |
| 8 | Schneider II | 11.61 | 4.49 | 20 | Penman 3B | 200.04 | 61.53 |
| 9 | Tuttle I | 38.77 | 30.72 | 21 | Penman 3C | 238.13 | 69.37 |
| 10 | Tuttle II | 44.56 | 32.58 | 22 | Reclining Heart Rate | 63.13 | 12.69 |
| 11 | Harvard I | 66.87 | 44.61 | 23 | Subjective Ranking | 12.00 | 6.63 |
| 12 | Harvard II | 68.35 | 40.01 | 24 | Leg Length | 34.60 | 1.65 |

## Table 2
## Reliability and Objectivity Measures

| *Test* | *Reliability* | *Objectivity* |
|---|---|---|
| Barach | .8406 | |
| Schneider | .6871 | |
| Tuttle | .7428 | |
| Harvard | .9641 | |
| Penman A | .7623 | .8098 |
| Penman B | .8154 | .8490 |
| Penman C | .4919 | .8295 |

rate was maintained for two minutes or until the subject's heart rate reached 180 beats per minute.

The amount of time it took for the subject's heart rate to reach 140 beats per minute (test A), 160 beats per minute (test B), and 180 beats per minute (test C) was recorded. If the subject's heart rate did not reach any one of the above heart rates during the five and one-half minutes of the test, a total of 330 seconds was recorded as his score. A criterion score was established by converting the raw scores of the Barach, Schneider, Tuttle, and Harvard tests into Hull scale scores. The scale scores were then added to form the criterion.

The Harvard step test, the Barach test, the Schneider test, and the Tuttle pulse ratio test were administered two times to each subject in order to obtain reliability coefficients. The first test of each of the above was used in comparing them to the criterion score and the Penman cardiovascular test. The Penman cardiovascular test was administered three times with the first two trials being used to measure reliability and the third trial being used to establish objectivity. The first trial of the Penman test was used in comparing it to the rest of the tests and the criterion score. The Control Data Corporation, CDC 3400 Computer, was used to compute all statistics necessary in this investigation.

### Analysis of Results

The means and standard deviations of all measurements taken are tabulated in Table 1. Reliability and objectivity measures are shown in Table 2. The Harvard step test seemed to be the most reliable measure; that is, whatever it was measuring, it was measuring consistently. In this investigation, over half of the subjects were unable to complete the Harvard test and all said they were unable to complete the test because of leg fatigue—not because they were "out of breath." The Penman test B (time for heart rate to reach 160 beats per minute) seemed to be the most reliable and objective of the three Penman tests (i.e., 140, 160, 180). From Table 3, it can be observed that the Penman test A correlated with the Penman test B .9725. The reliability of the Penman test B (.82) was at the lower limit of acceptability; however, two tests commonly accepted as being valid were lower. The poor reliability of the Penman test C (180 beats) was probably due to the observed occurrence of numerous extra systoles or the frequent skipping of a systole at this rate of activity for some of the subjects.

The scores obtained from the Barach, Schneider, Tuttle, and Harvard tests were converted to Hull scale scores and totaled to determine the criterion score. Each of the four tests and the

## Table 3
## Correlation Matrix

| | Criterion | Barach | Schneider | Tuttle | Harvard | Penman A | Penman B | Penman C | Reclining Heart Rate | Subjective Rating | Height | Leg Length | Weight | Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Criterion | — | .8757 | .7829 | .8249 | .8870 | .7329 | .7127 | .6974 | .7340 | .9226 | .2340 | .2803 | .5765 | .1920 |
| Barach | | — | .8090 | .7357 | .8300 | .6075 | .5548 | .5285 | .8124 | .8394 | .1258 | .2532 | .5020 | .1186 |
| Schneider | | | — | .6168 | .6830 | .4901 | .4643 | .4596 | .6599 | .7764 | .1111 | .0961 | .4426 | .0080 |
| Tuttle | | | | — | .8225 | .7308 | .7128 | .6846 | .5842 | .8003 | .1230 | .2256 | .5163 | .3869 |
| Harvard | | | | | — | .7717 | .7171 | .6695 | .7318 | .8861 | .2164 | .3681 | .5714 | .3199 |
| Penman A | | | | | | — | .9725 | .9265 | .6383 | .7618 | .2539 | .5092 | .3523 | .1426 |
| Penman B | | | | | | | — | .9580 | .6341 | .7474 | .3327 | .5394 | .3303 | .1750 |
| Penman C | | | | | | | | — | .5946 | .6994 | .3210 | .4219 | .2187 | .1107 |
| Reclining heart Rate | | | | | | | | | — | .7598 | .3794 | .4304 | .3313 | .0595 |
| Subjective rating | | | | | | | | | | — | .3475 | .4138 | .6164 | .2542 |
| Height | | | | | | | | | | | — | .7187 | .2589 | .0879 |
| Leg length | | | | | | | | | | | | — | .0553 | .0873 |
| Weight | | | | | | | | | | | | | — | .4405 |
| Age | | | | | | | | | | | | | | — |

three Penman tests were then correlated with the criterion. Test A correlated most highly (.73) with the criterion score of the three Penman tests. The four established tests correlated slightly higher, naturally, because their scores were a part of the criterion score. The relatively low correlations of the Penman tests with the criterion may also be due to the fact that the criterion score was composed of tests which themselves are quite possibly not very valid.

Two tests, the Schneider and the Tuttle, did not allow for recording of the extreme built-in variability of scores in this sample. On the Schneider test there were many perfect scores of 18 and several 0 scores. The Tuttle test necessitated retesting of the high and low extremes in order to adjust the exercise rate (number of steps per minute to obtain a 2.5 pulse ratio). The only statistically significant relationships (.05) between step tests and height and leg length were between leg length and the Penman tests A, B, and C. In the Penman test A, no one, including a subject with a reclining heart rate of 33, achieved a perfect score of 330 seconds for the 140 rate interval. Several excellently conditioned runners, however, did receive perfect scores at the 160 interval. That is, while continuing the maximum stepping rate for the duration of the 330-second time period, their heart rate peaked at a rate less than 160 beats per minute.

The range of time required to increase the heart rate to 140 beats per minute was 220 seconds with a mean of 126.87 seconds and a standard deviation of 69.48 seconds (Table 1).

## Conclusion

Based on the findings of this investigation, it appears as though a cardiovascular efficiency test (Penman test A) that is valid, is as reliable and objective as other accepted tests, has adequate scoring procedures to measure objectively, and discriminates between highly conditioned and poorly conditioned college men has been established.

The findings of this investigation concur with those of Morehouse; that is, it is not necessary to perform at near maximum effort in order to display changes in condition and that 140 beats per minute exertion will reflect such changes with accuracy.

# Calculation of Metabolic Mixtures by Fortran Programing[1]

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In the study of nutritional status, the metabolic mixture (i.e., the proportion of protein, fat, and carbohydrate being metabolized) and the water balance are generally of fundamental importance. The present methods of calculation, most recently described in Consolazio, Johnson, and Pecora, are generally made by means of a standard desk calculator. Handled in this manner, the calculations are laborious and normally subject to a high incidence of error. The determination of a balance necessitates a lengthy systematic assessment of the many input and output factors, and this has, unfortunately, tended to dissuade investigators from its routine application. A brief history of the development of the metabolic mixture equation, the task of writing a computational program using the IBM 7094 (or comparable high speed computer), and the specific program developed are discussed.

## Metabolic Mixture

The direct calorimetric investigations of Pettenkofer and Voit that were later confirmed by Rubner and the further technical perfection introduced by Atwater and Rosa verified the law of conservation of energy as applied to animal metabolism and led the way for determining the heats of combustion, along with the oxygen and carbon dioxide equivalents, for fat, carbohydrate, and protein. The factors that have developed from these and other investigations were compiled by Zuntz. They have been modified by Lusk and Cathcart and Cuthbertson. Magnus-Levy has also introduced factors which vary slightly from those given by the above investigators.

The present method for calculating the metabolic mixture was firmly established about the turn of the century by Zuntz and Schumburg. The method was modified by Lusk. More recently Weir simplified the calculations and showed that the calculations involved in the metabolic mixture, as introduced by Lusk, are unnecessarily cumbersome. Consolazio, Johnson, and Pecora have shown that it is unnecessary to compute the nonprotein R.Q. or to use the caloric equivalents for oxygen and the percentage of heat as given in standard tables. That is, there are three and the same independent variables in the calculation of protein, carbohydrate, and fat metabolized; the calories derived therefrom; and the water of oxidation produced. These variables are the oxygen consumed, the carbon dioxide produced, and the nitrogen excreted in the urine. The intermediate steps usually used in the calculation of the nonprotein R.Q. and given the distribution of calories and the caloric equivalent of oxygen at a given nonprotein R.Q. are all, in algebraic terms, redundant. The derivation and a complete discussion of the following equations used in the metabolic mixture calculations can be found in Consolazio, Johnson, and Pecora.

$$\text{Pro}_r = 6.25\ \text{N}_u \qquad (1)$$

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[1] P. A. Mole and R. E. Johnson of the University of Illinois assisted with the theoretical and technical write-up and as consultants for all theoretical matters related to the calculation of metabolic mixture. Jerry Johnson of the University of California, Davis, served as the Fortran program consultant.

A copy of the references cited in this study may be obtained from the author upon request.

$$F_t = 1.689\ O_{2m} - 1.689\ CO_{2m} + 1.943\ N_u \qquad (2)$$

$$CHO_t = -2.909\ O_{2m} + 4.115\ CO_{2m} - 2.56\ N_u \qquad (3)$$

$$E_m = 3.78\ O_{2m} + 1.16\ CO_{2m} - 2.98\ N_u \qquad (4)$$

$$H_2O_n = 0.062\ O_{2m} + 0.662\ CO_{2m} - 1.04\ N_u \qquad (5)$$

The sign denotes the change in weight expressed in grams from state I to state II. $Pro_t$ is the total protein metabolized in grams; $CHO_t$ is the total carbohydrate metalolized in grams; $F_t$ is the total fat metabolized in grams; $O_{2m}$ is the oxygen consumed in liters; $CO_{2m}$ is the carbon dioxide produced in liters; $N_u$ is the urinary nitrogen excreted in grams, measured over the same period of time as $O_{2m}$ and $CO_{2m}$; and $E_m$ is the metabolic heat expressed in kilocalories.

## Computer Analysis

Computer analysis complements the current development of autoanalytical methods and makes it practically feasible to run routine balance determinations. Furthermore, the computer analysis of metabolic mixture and water balance all but eliminates error and substantially reduces the time and labor required of the standard desk calculations.

A computing system requires the integration of an input device to bring information into the machine, an output device to print-out the results, a memory or storage unit, a unit to perform arithmetic and logical operations, and a control system that will direct the flow of information through the system. The advantage of employing a digital computer for analysis rests in its high speed calculating ability with provision for internal storage of program as well as data. The storage admits both programed decisions and modifications.

Since computers operate in a binary number system, the program presented to a computer must be in numerical form to be acceptable. The clerical detail that arises from such a language is tedious and subject to error. To overcome this problem, computer programs were written which would translate these languages into a form acceptable to a specific machine. Fortran, i.e., formula translator, is such a language. Fortran programs consist of two components: (1) a language which is independent of any particular machine, and (2) a translator or processor which must be written for a specific machine. Since the processor is necessary and provided for any given machine, the Fortran language or program is the remaining task for routine digital computer operation.

## Fortran Programing

The task of writing a Fortran program for metabolic mixture begins with a series of statements which constitute the source program. The source program is punched onto cards and read into the computer. The execution of the program by the computer in solving the problem constitutes the object program. The details of these operations are treated in a straightforward manner by McCracken. The source program for the metabolic mixture is described in Table 1. The computer print-out of the calculated metabolic mixture is described in Table 2.

The identification of the subject and experiment is arbitrary and need only satisfy the programers. The standard computer card is composed of 80 columns which comprises the field. Generally, the subject and experiment identification are given the first part of the field. The coded symbols for experimental variables immediately follow the subject and experiment identification. Both types of information are punched onto standard computer cards, in a horizontal array across the card, one data card for each individual determination of metabolic mixture. The total collection of these cards constitutes the data deck. Finally, a coded symbol is assigned to each constant and appears also with every computational operation. These coded symbols locate the pertinent information stored within the computer memory cell for subsequent computation and print-out.

### TABLE 1
### The Fortran Program Including Source Statements and Computer Operations Used To Calculate Metabolic Mixture

```
ISN                          Source Statement

 0  $ IBFTC                   METMIX
 1                            DIMENSION ID(5)
 2                            REAL KN,KPRCH,KFATI,KPRO,KCHO,KFAT,MRKKH,VAR(3,16)
    C ***                     DATA ARRAY OF CONSTANTS USED IN CALCULATION
 3                            DATA PRON,CHON,FATN,HWN,KN,CHOOX,FATOX,WMOX,
                              TOTEOX,CHOCO,FATCO,IWMCO,TOTECU/6.25, -2.56,
                              -1.04, -1.04, -2.98, -2.91, 1.69, .062, 3.78, 4.12
                              2   , -1.69, .662, 1.16/KPRCH,KFATI/4.1, 9.3/
 4                            I READ(5,1000) (ID(I), 1 = 1,5),WT,HT,AGE,SEX,URN,
                              OXCONS,COPRO
11                          1000 FORMAT(4A2, A4, F4.2, F3.0, A2   , AI, F4.3 F4.2, F4.2)
12                            DATAIEND/2H   /
    C                         PUT A BLANK CARD TO TERMINATE RUN.
13                            IF(ID(I).EQ.IEND) STOP
16                            SPRO = URN*PRON
17                            SCHO = URN*CHON
20                            SFAT = URN*FATN
21                            SMW = URN*HWN
22                            STOTE = URN*KN
23                            SCHO = SCHO+OXCONS*CHOOX+COPRO*CHOCO
24                            SFAT = SFAT+OXCONS*FATOX+COPRO*FATCO
25                            SMW = OXCONS*WMOC+COPRO*WMCO +SMW
26                            STOTE = STOTE+OXCONS*TOTEOX+COPRO*TOTECO
27                            KPRO = KPRCH*SPRO
30                            KCHO = KPRCH*SCHO
31                            KFAT = SFAT*KFATI
32                            TOTK = KPRO+KCHO+KFAT
33                            PERPRO = KPRO/TOTK
34                            PERCHO = KCHO/TOTK
35                            PERFAT = KFAT/TOTK
36                            MRKKH = TOTK/WT
37                            X26 = KPRO/WT
40                            X27 = KCHO/WT
41                            X28 = KFST/WT
42                            WRITE(6, 2000)ID(2), ID(3), ID(1), ID(4), ID(5), WT,HT,AGE,
                            SEX,URN,IOXCONS,COPRO
43                          2000 FORMAT(IHL, 5HDATE,    , A2, IH/, A2, IH/, A2, 5X,
                              8HSUBJECT, A2, 5X, 16HTIME 0
                              IF ANALYSIS, IX, A4/IHJ, 10X, 10HWT. (KG.) = , F7.0, 5X,
                              13HHEIGHT(CM.) = , 2F5.0, 5X, 14HAGE IN YEARS = , A2,
                              8H SEX IS, AI/I HK, 20X, 28HURINARY NITR 30GEN(GM/
                              HR) = , F13.3/IHJ, 20X, 28HOXYGEN CONSUMPTION(L/
```

*(Table 1, continued)*

```
ISN              Source Statement

                    HR) = , F13 4.3/IHJ, 20X24HCO2 PRODUCTION(L/HR) =
                    ,F13.3)
 44                 DATA VAR/18HSUM PROTEIN(GMS), 18HSUM CARBO.
                    (GMS), 18HSUM FAT(GM IS.), 18HSUM MET, H20(GMS),
                    18H MET. HEAT(KCAL), 18HPROTEIN(KC 2AL), 18HCARBO-
                    HYDRATE(KCAL), 18H FAT(KCAL), 18HTOTAL KCAL 3,
                    18HPER CENT PROTEIN, 18HPER CENT CARBO., 18HPER
                    CENT F 4AT, 18HMR (KCAL/KG/HR), 18HKCAL PROTEIN/
                    KG BW, 18HKCAL CHO/K 5G BW, 18HKCAL FAT/KG BW/
 45                 WRITE(6, 3000) (VAR(K, I), K = I, 3), SPRO
 52               3000 FORMAT(IHK, 20X, 15HA N A L Y S I S/IHJ, 10X, 8HVARI-
                    ABLE, 15X, 5HVALUE/IIHJ, 10X, 2(4H----), 15X, 5H-----/IHJ,
                    5X, 3A6, 5X, F15.8)
 53                 WRITE(6, 4000) (VAR(K, 2), K = I, 3), SCHO, (VAR(K, 3),
                    K = 1, 3), SFAT, (VAR(K, 14), K = 1, 3), SMW, (VAR(K, 5),
                    K = I, 3), STOTE, (VAR(K, 6), K = 1, 3), KPRO, (VAR(K, 27),
                    K = 1, 3), KCHO, (VAR(K, 8), K = I, 3), KFAT, (VAR(K, 9),
                    K = 1, 3), TOTK, (VAR(K, 310), K = 1, 3), PERPRO, (VAR(K,
                    II), K = 1, 3), PERCHO, (VAR(K, 12), K = 1, 3), 4PERFAT,
                    (VAR(K, 13), K = 1, 3), MRKKH, (VAR(K, 14), K = 1,3), X26,
                    (VAR(K, 15), K = 51, 3), X27, (VAR(K, 16), K = 1, 3), X28
150               4000 FORMAT(IHJ, 5X, 3A6, 5X, F15.8)
151                 WRITE(6, 5000)
152               5000 FORMAT(IHJ, 43(IH*))
153                 GO TO I
154                 END
```

*Metabolic mixture program.* The Fortran program for metabolic mixture is developed from equations (1) through (5) described under the discussion of metabolic mixture above. These equations serve as constants and are punched in a horizontal array across a computer card. The subject indentification and experimental data are handled in a similar fashion. These data constants and labels appear in lines 1, 2, 3, and 44 of Table 1. The rest of the program includes the computer-read instructions found on line 4, the card input format on line 11, the instructions for the calculations on lines 42, 45, and 53, and the print-out format given on lines 43 and 52. This division of program instruction constitutes the basic block design currently employed in computing systems.

The arithmetic and logical operations contained between lines 12 and 42 comprise the essence of the object program. Once the coded data has been read in, all mathematical operations and transformations necessary to express the metabolic mixture are controlled by the computer system. The stepwise arithmetic procedure, for example, of determining carbohydrate in grams metabolized per period, is presented in line 23.

The reader should note that the location of the computed results in the computer memory cell is sequentially arranged and immediately follows that assigned to the subject identification and variables. Important also are the order of the statements used in the program. The data coding and computer print-out of the calculated metabolic mixture is controlled by the print-out format card and presented in Table 2.

### TABLE 2
### Coding of Experimental Identification, Variables, and Format of the Computer Print-Out of the Calculated Metabolic Mixture

| *Computer Code* | *Variable Description* |
|---|---|
| YR | Year |
| MO | Month |
| DT | Day of Month |
| SUBJ | Subject |
| TIH | Time(Hour of day) |
| WT | Weight in grams |
| HT | Height in centimeters |
| AGE | Age in years |
| SEX | Sex (1 = male; 2 = female) |
| URN | Urinary nitrogen – (gms/period) |
| OXCONS | Oxygen consumption – (liters/period) |
| COPRO | Carbon dioxide production – (liters/period) |

```
DATE  07/02/64   SUBJECT  02    TIME OF ANALYSIS  1459
      WT.(KG)  =           74.  HEIGHT(CM)  =      189.    AGE IN YEARS = 25 SEX IS 1
                 URINARY NITROGEN(GM/HR)  =          0.700
                 OXYGEN CONSUMPTION(L/HR)  =        16.320
                 CO2 PRODUCTION(L/HR)             12.540

                                 ANALYSIS
        Variable                                       Value
      SUM PROTEIN(GMS)                              4.37500000
      SUM CARBO.(GMS)                               2.38160038
      SUM FAT(GMS)                                  5.03020000
      SUM MET.H20(GMS)                              8.58531988
         MET. HEAT(KCAL)                           74.14999866
      PROTEIN(KCAL)                                17.93750000
      CARBOHYDRATE(KCAL)                            9.76456153
         FAT(KCAL)                                 46.78085947
      TOTAL KCAL                                   74.48292065
      PERCENT PROTEIN                               0.24082702
      PERCENT CARBO.                                0.13109799
      PERCENT FAT                                   0.62807498
      MR (KCAL/KG/HR)                               0.99990496
      KCAL PROTEIN/KG BW                            0.24080413
      KCAL CHO/KG BW                                0.13108554
      KCAL FAT/KG BW                                0.62801529
```

# A Cluster Analysis of Static Strength[1]

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Strength measurements have been reported as early as the beginning of the eighteenth century, and since that time measurements of human strength have appeared with increasing regularity in the literature. In addition to measuring human strength as such, some investigators were concerned with the application of several tests comprising a large battery of tests which would best reflect the total strength of the individual. Other studies were more concerned with increasing the efficiency of the testing process than with identifying some ability or trait. Still other investigators used factor analysis as a means of identifying specific group strengths from among a variety of strength tests representing a broader spectrum of abilities—that is, an admixture of static, dynamic, and explosive strength measurements were used to isolate and identify the various strength factors. For example, leg strength, shoulder strength, back strength, abdominal strength, upper and lower body strength were disclosed by this procedure of analysis.

However, a review of the reported literature did not disclose any investigations of the relationship between the strength of various segments of the body when *all* measurements were *static* strength measurements. Therefore, it was deemed important by the author to increase knowledge of this aspect of strength by investigating if there are specific strengths in the body of college men that may be revealed by the application of the cluster analysis technique to the data. Consequently, this study was undertaken to investigate relationships between static strength[2] measurements of certain segments of the body by means of this form of factor analysis.

Eighty-one white male subjects were selected from a group of 1974 students who were enrolled in service course classes in the physical education program at the University of Oregon during the fall and winter terms of the 1963–64 academic year. The students selected ranged from 18 years and 2 weeks to 22 years and 5 months in age. In selecting the subjects, the procedure of random numbers was used with some modifications since it was necessary to eliminate some subjects because of injuries or other reasons. For example, students were not used as subjects if they were among the lower 13 percent of entering students in terms of strength and endurance, as determined by a battery of physical performance tests. Members of this group (250 incoming freshmen) were placed in special classes where the development of strength and endurance was emphasized. The program of exercises in which they participated were strength-developing exercises, and changes taking place from week to week made the use of the data obtained from this group questionable for use in this study. Also, members of weight training classes were excluded for the same reason. Students were also not used if they were members of adaptive physical education classes, if they had been recently subjected to surgery, if they were of non-Caucasian origin, if they were members of freshmen or varsity squads, or if they were left-handed or left-footed. When a subject was eliminated for one of these reasons, the subject whose number was one digit higher in an alphabetically arranged file was contacted and subsequently tested.

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[1] A bibliography may be obtained from the author upon request.

[2] Static strength in this study refers to the amount of force registered on a tensiometer as a result of a single maximum contraction by a group of muscles against the resistance of a tensiometer.

A cable tensiometer was used to obtain 24 separate strength measurements of each subject. The strength measurements taken were right index finger flexion, right hand extension, right hand palmar flexion, right hand abduction, right hand adduction, right forearm flexion, right forearm extension, right arm flexion, right arm extension, right arm abduction, right arm adduction, head flexion, head extension, right lateral flexion of the head, trunk flexion, trunk extension, right thigh flexion, right thigh extension, right thigh abduction, right thigh adduction, right leg extension, right leg flexion, right foot plantar flexion, and right foot dorsal flexion. In addition, the age, weight, and height of each subject was also obtained. The procedure followed were those recommended by Clarke and his associates. The tests were selected from an initial battery of 38 tests on the basis of (1) the ease with which they could be administered, (2) their objectivity as measures of static strength, and (3) their ability to measure strength in many movable parts of the body.

To obtain data for determining the reliability for each of the 24 strength tests which were used, the first 31 of the 81 subjects were tested and retested. Twenty of the 24 coefficients derived were above .900. Of the remaining 4, only the reliability of hand palmar flexion strength was below .880. The correlations between the test-retest scores obtained were sufficiently high to justify the use of the tests for the purposes of the study.

The next step in the treatment of the data was that of determining the intercorrelations between the 24 strength tests. Two hundred fifteen, or approximately 78 percent of the resulting 276 coefficients, were found to be significant at the .01 level of confidence.

The cluster analysis technique was applied to the intercorrelation coefficients derived from intercorrelating the static strength scores which were collected. The cluster analysis technique was selected instead of factor analysis because the former is a simplified method of correlational analysis which provides results similar to those obtained by the latter method when applied to data of the nature collected for this study. A modification of Holzinger and Harman's B-coefficient technique as described by Tryon, was used to isolate the clusters.

In this technique, test variables which form a group or cluster that identify a group factor have higher correlations with each other than with other variables in a battery of tests. The derived B-coefficient may be described as an index or "coefficient of belonging." It is a ratio of the means of the intercorrelations between the different tests within the group or cluster to their mean correlation with all the tests outside the group or cluster. If by this analysis the B-coefficient met the criterion set for acceptance, the results were further evaluated by an analysis of the action of the muscles used in the strength tests. If the action of the muscles or group of muscles also supported a strength variable's retention in the cluster, it was retained as a permanent member of the cluster. This was done so that no uncontrolled judgment was involved on the part of the investigator. The cluster analysis technique rearranges the order of the variables in the correlation matrix in order to bring clusters into distinct areas of a matrix, and then computes separately for these clusters. A cluster was begun with the 2 test variables which correlated the highest and to which additional variables were allocated until a minimum B-coefficient value of 130 was reached. A value of B = 100 meant that the average of the intercorrelations of the selected subset was exactly the same as the average correlation of these variables with all the remaining ones. Such variables would not be regarded as "belonging together" any more than they belong with the other variables of the total set.

Five specific groupings of strength were isolated and identified by this method. In addition, an analysis of muscle actions involved in the performance of each of the strength tests served to act and define the limits of each cluster. Cluster 1 was identified as arm and forearm strength and was composed of arm extension strength, arm adduction strength, arm flexion strength, and forearm flexion strength. Cluster 2 was identified as trunk strength and included trunk flexion and trunk extension strength. Cluster 3 represented strength of the neck region and was composed of head flexion strength, head extension strength, and head lateral flexion strength. Cluster 4 was identified as strength of the hand and was composed of hand palmar flexion strength, hand abduction strength, hand extension strength, hand adduction strength, flexion of the index finger strength, and forearm flexion strength. Cluster 5 represented strength of the thigh and leg and was composed of thigh flexion strength, thigh adduction strength, leg extension strength, and thigh extension strength.

# Deterioration Curves and Their Reversal by Physical Fitness Exercise Programs[1]

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The purpose of this presentation is to present some representative examples of deterioration curves, due to aging and/or loss of physical fitness, and evidence of their reversal by various physical fitness programs carried out in physical education.

## Two Main Types of Deterioration Curves

There are two principal types of deterioration curves observable from long experience in our work:

A. *Deterioration During a Given Performance (Immediate Effect)*

(Drop-off curves, flattening of T-waves, and negative S-T segments of the electrocardiogram during work; inefficiency by the "break" in the progressive pulse ratio test, or the development of oxygen debt, or extreme shortening of the isovolumic interval in the pre-ejection phase of the heart cycle.)

B. *Deterioration with Age (Longitudinal Effect)*

(Longitudinal effects showing downward sloping curves with aging)

Anton Carlson (*Life* 38:No. 17, April 25, 1955) and Martin Brandfonbrener and others, Milton Landowne and Nathan W. Shock (*Sc. American*, 206:100–110, Jan., 1962) have shown these curves of deterioration in the literature. We have also used Sid Robinson's report (*Arbeitsphysiologie*, 10:251, 1938) as a reference line for the maximal oxygen intake. Deterioration of the energy in the brachial pulse wave (Starr and Wood, *Circulation*, 23:714–732, May, 1961) is impressively related to the development of coronary disease. It is most impressive that deterioration starts within two months of giving up an activity involving physical training.

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[1] Charts and bibliography may be obtained from the author upon request.

Physical deterioration is synonomous with loss of physical fitness. Significant indicators of heart vigor (the heartograph area and amplitude) deteriorate progressively with the loss of oxygen to the heart muscle. Here the deficiency was induced by lowering the partial pressure of oxygen by simulating higher and higher altitude levels in the University of Illinois decompression chamber in the Atmospheric Environment Laboratory. Progressive decline in the Cureton 18-item motor fitness test is paralleled by declines in resting oxygen intake (basal) and in ability to develop high pulse rate and lactic acid in work.

Similarly, the Landowne, Brandfonbrenner, and Shock studies have shown that many critical variables deteriorate at a frightful rate. Actually, someone familiar with the array of these data would be afraid not to exercise if it were fully known that exercise in the proper amount, intensity, and duration would reverse these curves.

## *REVERSAL OF DETERIORATION RESULTING FROM PHYSICAL TRAINING*

### Improvements in Maximal Oxygen Intake and 2-Mile Run Time

Physiologists indicate that the Maximal Oxygen Intake Test (Astrand, Dill, Robinson, Taylor, and Chapman) is highly related to circulation and cardiac function. Ribisl and Cureton, in an experiment at the University of Illinois, improved a group of middle-aged men by cross-country and road running, and with time trials on a monthly basis in the 2-mile run on the indoor Armory track giving 13.62 percent improvement in a 5-month experiment. The middle-aged men, averaging 40.4 years, worked out 3–5 times per week for an hour and after 1 month of preliminary work time trials were begun. Improvement in the 2-mile run time was from 17:42.1 to 14:41.5; and the corresponding improvement in maximal oxygen intake capacity was from 40.12 to 45.54 cc/min/kg, which indicated increased aerobic capacity and endurance. The liters per minute of oxygen intake capacity improved from 3.362 to 3.582; the maximal pulmonary ventilation improved 13.9 liters per minute; the maximal oxygen pulse improved 2.13 milliliters per beat. These are reversals of the expected trends of physical deterioration with age. The subjects also performed a fixed work load on the motor-driven treadmill with lower heart rates, lower ventilation rate, and lower oxygen debt. All of these indicate an improved efficiency in the work task. It was also demonstrated that well-trained middle-aged men developed an oxygen intake capacity of 53.00 cc/min/kg, which corresponds to the young men's level, as a result of physical training. It would appear from such improvements that lack of physical training is a principal cause of such aging, and that it is readily reversible if middle-aged subjects would go through physical training programs of the type used. There are many programs that would not work, but the 3 1/2 mile cross-country work used in this experiment appears to be one of the better programs. Such improvements are not made from isometric or trivial submaximal programs: Getchell found golf to be ineffective; Sterling found badminton ineffective; and several investigators found the Canadian 5-BX program ineffective. Several good examples of such maximal oxygen intake improvements are now available (*Journ. of Sports Medicine and Physical Fitness*, 4:87–93, June, 1964; *AMA Journ.*, 899–901, Mar. 15, 1965; and the *Research Quarterly*, 24:446–452, Dec., 1953).

### Substitute Tests for Oxygen Intake Test

For several years the validity of several substitute tests to predict maximal oxygen intake have been studied in our laboratory and also by DeVries and Falls in their laboratories (USC and Southwest Missouri State, respectively). Correlations as high as 0.71 are reported between the average progressive pulse ratio step test (at 12, 18, 24, 30, and 36 steps per minute on a 17-inch bench for 1 minute each time, allowing 5 minutes between progressions for recuperation) and the maximal oxygen intake test score. It is the "break in the graphed line" of the plotted pulse ratio line that is of even greater importance. The "break" is measured from the continuation of the 24 and 30 step-rate points, extending this line. This "break angle" is highly related to oxygen debt, the relationship being considerably better than the relationship with oxygen intake. But it is not right to assume that raw correlation procedure will fit this curved line. This progressive pulse ratio procedure is another type of decrement test, and it has been shown that the plotted oxygen intake line will usually turn downward when the line breaks upward. The break upward indicated oxygen debt and the break downward indicated curtailment of the oxygen intake because of tenseness, inadequate breathing, or just poor cardiovascular-respiratory fitness. The test is seen much more in the light of a tolerance test to determine the point at which embarrassment occurs. This test is graphic, gradually progressive, and actually provides warnings to prevent any subject going "all-out" prematurely to being trained to tolerate such exertion. The test indicates just when the subject begins to go into oxygen debt, and the test can stop right there at that point. It has the advantage of being administrable with only a stop watch, or stopclock timer and it is already used by YMCA physical directors, who often administer it in groups, as we have long done with college students and adults.

The heartograph (Cameron) test is the most valid and most reliable of the relatively simple tests which can be administered in less than 5 minutes in the quiet state. Three tests are usually given, all in about 5 minutes (a) sitting quietly, (b) standing for 1 minute, (c) after a brisk run at 180 steps per minute with toes clearing the floor about 4 inches in the run. Many studies have been made on this test to indicate its high relationship to stroke volume in the quiet sitting position and to indicate hydrostatic drop associated with poor function of the veins in the quiet standing position. The postexercise amplitude has been shown to relate highly to endurance, pulse pressure, and terminal pulse rate at the end of the run. It is as good as the progressive pulse ratio test to predict all-out running time on the treadmill.

Thus, there are 3 tests which are not too severe for out-of-condition adults to take: (1) Astrand's two-speed bicycle test, (2) Cureton's progressive pulse ratio step test, and (3) the heartograph test, using all 3 variations, including also the postexercise blood pressures to be compared with the quiet sitting blood pressures. Observation of what happens to these blood pressures, especially the diastolic, is probably more important than anything else, but a sharp decrement in the amplitude of the brachial pulse wave indicates also a shortage of oxygen. A flattish angle (obtuse from the vertical) may also indicate a weak myocardium or a very high peripheral resistance.

Improvements in the brachial pulse wave usually parallel quite well improvements in the average progressive pulse ratio and the "angle of break" in the latter. The three types of brachial pulse wave tests (on the Cameron heartometer) are usually given in connection with our training studies, and after following the variations for about 20 years we can say that the results of physical training on a longitudinal basis are reflected extremely well in the brachial pulse waves. An example may be used to make this clear. The 3 tests were given over several years to a female competitive swimmer who went into progressive training for 2 years; she made steady improvement in swimming times, and the improved endurance and cardiovascular fitness were quite proportionately reflected in the amplitude of the brachial pulse waves.

In October 1954 the waves were small and poorly shaped (many contrasts are shown for champion athletes, men and women, in Cureton's *Physical Fitness of Champion Athletes* [1952]). The poorest wave at the start of training was the postexercise wave, which has the highest relationship to maximal oxygen intake capacity. In 1 year this postexercise wave was greatly increased, and the terminal pulse rate decreased. From 1956 to 1958 the peak curves were made, as well as taller and sharper systolic spikes developed—these during peak performances while on the Canadian Olympic Swimming Team and afterward. The postexercise pulse rate slowed more and more as endurance developed, and the vertical inotropic energy of the heart stroke increased. Then in 1960, when she had been out of training about 2 years and also developed some intestinal infection, the waves dropped sharply and her times dropped accordingly, as she failed to place in the Rome Olympic Games. The following year her waves became even worse, retrogressing nearly to her beginning waves of 1954, while her postexercise pulse rates remained low due, no doubt, to strong vagus tone. As she went back into training the waves again developed into tall and sharp waves but not quite as good as her best in 1958. These records illustrate the great importance of heart energy, and this is just what fails in adults as has been shown in many studies (Cureton's summaries, *AMA Journ.* 162:1139-1151, Nov. 17, 1956; and *Ill. Med. Journ.* 90:143, 1951; *CPEA Proceedings* 60:82-104, Columbus, Ohio, 1957). Adults have and will respond in a similar manner. There is a high relationship between the velocity of the frontal face of the brachial pulse wave and the velocity amplitude of the ballistocardiogram, and the amplitude of the brachial pulse wave is highly related to stroke volume of the heart. Starr and Wood (*Circulation*, 23:714-732, May, 1961) have shown that over a 20-year follow-up period, middle-aged men with low energy heart strokes develop coronary disease much more frequently than men who demonstrated strong heart strokes at the time of their first examinations.

Hence, we have struggled to find out if we could increase the energy of the heart stroke by properly supervised training programs, and our answer is yes, and even in men with the poorest heart strokes at the outset of an exercise program. (Cf. *Am. Journ. Cardiology*, "Symposium on Work and the Heart," 14:761-770, Dec., 1964.) In this same symposium, Isaac Starr, pp. 771-783, relates the strength of the heart's "initial impulse" to youthful vigor and the converse to aging. Obviously, it is mainly a physiological matter of conditioning if it is reversible as current evidence indicates it clearly is. Numerous examples are available now of such reconditioning (*Journ. Sports. Med. and Physical Fitness*, 4:87-93, June, 1964; *Research Quarterly*, 23:149-160, May, 1952; *Journ. of the Assn. for Physical and Mental Rehab.*, 19:36-43, Mar.-Apr., 1965).

Many studies on the vigor of the heart stroke have now been made and reported, and it is one of the most improvable measures of cardiac function. The pressure waves from the initial impulse are transmitted without appreciable time loss into the aorta and on to the brachial cuff, with the frontal face of the wave being affected; the more vertical the angle, the faster is the velocity. Usually this is also quite proportional to amplitude, which is as good a measure as is needed to compare individuals. More expensive electronic measures are not more reliable and only slightly more valid, hardly being worth the large cost of elaborate electronic equipment. We are able to say this only after having used both methods over a period of a long time on every subject tested on our 5-channel recording apparatus. The amplitude, the angle of deviation from the vertical, and the obliquity angle are all taller and sharper as the result of a graduated, progressive type of endurance training over a long period of time (the low gear, middle gear, high gear progressive system, i.e., Cureton's *Physical Fitness and Dynamic Health*, Dial Press, N.Y.).

Several studies of total peripheral resistance (TPR) have shown us that the TPR is *inversely* related to the amplitude and area of the brachial pulse wave measured at rest. Several exercise training programs indicated that the reduction of TPR which results from progressive physical training is much more associated with a larger pulse wave than with blood pressures or pulse rate changes in middle-aged adults.

## Parallel Improvements, Physical and Organic, Are Important

Changes in cholesterol in the blood serum (organic) may be considered as a fitness reaction. High cholesterol levels may be reduced by physical exercise programs of the endurance type, if the exercise lasts 1-1½ hours (300–500 calories) each day, 5 days per week (experiments by Golding-Cureton, Golding, Mann, Pohndorf, Garrett-Pangle and Mann, Campbell, Naughton, Rochelle); but very moderate work, up to ½ hour of work 3 times per week, will not usually produce significant reductions in the serum cholesterol (experiments by Montoye, Olson and others, Metevier-Cureton).

From Golding-Cureton's work, the improvements were converted to standard scores and plotted, the graphs sloping upward in proportion to the reduction of cholesterol. It has been found that improvement in many types of muscular endurance tests, such as side-leg raisings, sitting tucks, chest raisings, floor push-ups, and mile run all parallel the cholesterol improvement slopes. This is not revealed by raw correlations, because here we have improvement vs *improvement in comparable score units*. The parallel nature of the changes in cholesterol and muscular endurance changes has probably been overlooked because medical doctors do not usually use comparable unit scores (standard scores). Nor do they use these types of muscular endurance tests. But the existing relationship is good. It has also been shown that this relationship holds only if the tests involve large muscle masses, i.e., large blood masses, and last for 1 minute or more. Conversely, several intensive, short duration tests do *not* show such parallelism, and events like time of hang on bar, extension press-ups, and forearm hold-ups for time are *not* parallel.

Of a parallel nature were the improvements made by 6 middle-aged adults who trained 1½ hours per day in endurance work at the University of Illinois under Phillips and Cureton. For 8 weeks there was indicated improvement; then, by taking the subjects out of the program and asking them to remain inactive, the fitness curves deteriorated; then, with a renewed training program, a bit longer and harder, the fitness curves made a very great improvement. The improvement slopes of the cholesterol (in standard scores) and maximal oxygen intake are quite parallel.

## FOREIGN RELATIONS

# What We Can Learn from the Europeans, East and West

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The three points presented in this paper are based on readings of Russian journals devoted to physical education and sports: (1) *Theory and Practice of Physical Culture*, (2) *Physical Education in the School*, (3) *Preschool Education*, (4) *Physical Culture and Sport*, (5) *Sports Life in the USSR*, and (6) *Sports Games*. First, from reading these journals it is apparent that there is very little that is "new" or radically different in theory. In essence, the theory of physical education and sports is basically similar and in some instances identical to the theory underlying physical education in the United States.

More important perhaps is what can be gained from Russian practices, which differ considerably in many respects. One practice which is most impressive is the amount and kinds of research being done in sports. In the physical education institutes, most of the research is conducted on national teams and national and world record holders. These studies are of top athletes throughout the world and not just of Russian performers. In the last few years the caliber of the research has been raised considerably, and so the information available can be of value to researchers and teachers. For example, more than half of the cinematographical and electromyographical studies referred to in my kinesiology and biokinetics classes are of Russian origin. Some of these studies are also reported in the *Yessis Translation Review*.

Another example of the research conducted is exemplified by the coordinated effort undertaken by the Research Council of the Physical Culture Institutes to help improve performances in the Olympic Games in 1968. The research topics were far ranging and involved many specialists in various disciplines.

The second point is related to the emphasis placed on early exposure of children to activity, sports, and competition in addition to the research being done with children of preschool and school age. There is much research to help substantiate the need for physical education at this age level, in general living to help develop the total individual, and as a means for building future communism.

In the schools there are recommended programs of study for each grade level. The courses of study are quite advanced when compared to those witnessed in most elementary and high schools in the United States. For example, in some schools, an eighth grade student would have covered intermediate skiing, advanced swimming, intermediate-advanced gymnastics, competitive basketball, soccer, track and field, and other sports. There is also much competition between various elementary schools in many different sports. To help substantiate the importance of physical education in the early school years, one only need look at the requirements for teachers of grades 1–4. In the 4-year curriculum, 154 hours are devoted to anatomy and physiology of children of early school age with fundamentals of school hygiene and 182 hours to physical education with methods of teaching. Optional subjects include up to 420 hours in improving sports skills.

There are approximately 2,000 sports schools for children, in which many sports programs are conducted. The sports schools offer free coaching and free use of facilities and equipment. Also, there are approximately 200 sports clubs for youth. There are also other organizations such as the "Pioneers" which help foster and develop sports programs and conduct sports competition.

The third point is presented to help give an overall view of the requirements for a secondary school teacher of physical education. Following is the 4-year curriculum based on figures released in 1963. The numbers after the subject indicate total number of hours, and numbers in parentheses indicate practical training in given subjects during periods of pedagogical practice.

| *Subjects* | *Hours* |
|---|---|
| History of the Communist party of the Soviet Union | 220 |
| Political economy | 150 |
| Dialectical and historical materialism | 140 |
| General psychology and growth | 88 |
| Hygiene, general and of physical exercises | 124 |
| Pedagogy | 100 |
| History of pedagogy | 72 |
| Educational movies | 36 |
| Theory and methods of physical education | 146 |
| Special seminar in pedagogy methods or psychology (elective) | 36 |
| Chemistry | 100 |
| Human anatomy | 160 |
| Human physiology | 190 |
| Medical supervision and physical therapy | 115 |
| History and organization of physical culture | 72 |
| Gymnastics with methods of teaching: | |
| a. Theoretical instruction | 400 |
| b. During annual training camp | (12) |
| Musical and rhythmic training | 82 |
| Light athletics with methods of teaching: | |
| a. Theoretical instruction | 150 |
| b. During annual training camp | (194) |
| Athletic games with methods of teaching: | |
| a. Theoretical instruction | 350 |
| b. During annual training camp | (64) |
| Active games with methods of teaching: | |
| a. Theoretical instruction | 60 |
| b. During annual training camp | (18) |
| Skiing with methods of teaching: | |
| a. Theoretical instruction | 38 |
| b. During annual training camp | (204) |
| Skating with methods of teaching | 90 |
| Swimming with methods of teaching: | |
| a. Theoretical instruction | 64 |
| b. During annual training camp | (114) |

| | |
|---|---|
| Excursion training: | |
| a. During annual training camp | (40) |
| b. Excursion. | (80) |
| Foreign language | 140 |
| Special training | 48 |

Optional subjects include other sports, improving sports skills, training in extracurricular activities and other related subjects up to several hundred hours.

# Physical Education in Europe

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Physical education programs in European elementary schools have been pointed largely toward physical development whereas those in this country have emphasized recreational and social values. However, programs in Europe are gradually stressing educational values more than in the past. It is interesting to note that their formalized programs are changing with the advent of "modern inconveniences." Sports and games are taking a larger and larger place in their programs. This is partly due to the fact that the youth of these countries are less and less willing to subject themselves to the rigid discipline of the past. Also, it is to be noted that leaders in the field anticipate that, as modern developments continue to take place, the same problems of sedentary living will face them as is true today in the United States.

When observing physical education programs and discussing them with leaders in Europe, one is struck with the large amount of central control that is exerted on them. Ministries of education in Europe exert much more control than federal and state agencies in this country. It is interesting to contemplate whether or not the same control may not be developing because of increased state and federal subsidies in this country.

The training of teachers of physical education in most European countries has followed quite a different pattern from the training of teachers here. There is considerable variation between countries, but generally, physical education has not been recognized as have liberal arts subjects. Usually, it is combined with other teaching fields in both training and teaching. This, however, is changing in many places and physical education is being recognized for its own value as an educational subject.

Another striking difference between European countries and the United States is the diversity of sports clubs that carry on out-of-school competition in most sports. In Germany alone, there are forty-three specialized associations promoting various sports throughout the nation.

While the competition at all levels is not under the control of the educational authorities, an advantage lies in the fact that individuals find competition beyond the school age. This accounts for the fact that in many sports the European competitor far outperforms our athletes.

## *INTERCOLLEGIATE ATHLETICS*

# Administrative Theory as a Basis for Practice in Intercollegiate Athletics[1]

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The two brave souls who undertook the preparation of this paper fully realize that they are climbing out on a limb that may well be sawed off before the ink has dried on the paper. They are challenging one aspect of an established tradition on the North American scene: intercollegiate athletics. The development of intercollegiate athletics (not to mention *interscholastic* athletics as well) on this continent has been a unique phenomenon in the history of the world. In no other countries in the world other than the United States and Canada has such a development taken place. Why this has happened here is basically quite well known by all, although it is true that a more careful delineation of the social forces at work would further better understanding of the process that has taken place.

Let it be known, further, at the outset that the writers are most enthusiastic athletics advocates. Both of us have played, taught, coached, administered, and watched them with vigor. Thus, it must be admitted that we approach this subject with somewhat of a bias—we like them and we feel that they belong in education. We want them to stay in education and want to consolidate their position in every way.

But now we have "let the cat out of the bag." We are concerned because most North Americans seem to believe that competitive athletics are extracurricular. They think they are nice for young, vigorous men. They are not so nice for truly feminine young ladies, of course, but that's another story. For young men they are exciting, thrilling, courageous, and invigorating activities. They serve a worthwhile purpose too: they keep young men vigorous in an automated society growing soft; they provide release from unhealthy tensions; and they help to develop worthwhile character traits. We believe all these statements, although we don't have any concrete evidence. The public, generally speaking, accepts these claims as well. Thus, the young men in their football uniforms are our knights in armor—our embattled warriors. All sorts of special arrangements are made for the lads who will carry our banners into the fray. It can be stated safely that athletes are our "cultural maximizers" in a society that is basically sportive in nature (Henry). Whether our team wins or loses becomes tremendously important. Down deep in our hearts and minds we recognize that the really important thing is how the boys play the game; yet, some other strange and primeval urge comes into conflict with the educational ideal and quite often wins out. But that's another story as well, and we leave that to the realm of the sports sociologist.

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[1] A bibliography may be obtained from the author upon request.

## Professional Status for Athletic Directors

This phenomenon of competitive athletics that has developed within the past hundred years has become a vast enterprise which demands wise and skillful management. In fact, the situation is now such that the idea of an athletic director or an athletic administrator in an educational institution at any level is a very ordinary and expected occurrence. One might even say that this position has assumed many of the earmarks of a profession. Having said this, we are immediately faced with the question of what constitutes professional status. To answer this question fully would require a rather complex analysis. For our purposes at this point, let us simply keep in mind that a recognized profession needs an organized body of knowledge based on research. A profession that is fully worthy of the name must meet many other criteria. For now, however, keep this particular criterion firmly in mind: an organized body of knowledge based on research. Before moving on, it should be recognized further that the perpetuation of our species, athletic administrators, as professional persons requires that some organizational structure be developed within educational institutions whereby the body of professional knowledge may be transmitted to those who follow.

If you will grant that the above statements about a primary criterion of a true profession, as well as the continuing need to prepare new administrators professionally through some sort of experience in which the background knowledge is transmitted, then let us consider briefly how college and university athletic administrators have received their preparation for this demanding position in the past. The answer to this question is immediately obvious: generally speaking, many of these men have worked their way up through the ranks in some sort of an apprenticeship scheme. One basic prerequisite seems to be that they have themselves been fine athletes—a criterion that most certainly cannot be challenged. Quite often as well, they have been physical education majors and have taken certain courses at the undergraduate or master's level which were of an administrative nature. In some cases they were not physical education majors in college but decided to cast their lot with intercollegiate athletics and became highly successful football or basketball coaches. Highly important, further, has been the fact that these men have demonstrated many fine personality and leadership traits. They knew how to get along with people; they made fine appearances; they knew how to get things done; they were willing to work very hard; and they believed strongly in the importance of intercollegiate athletics.

It is recognized, of course, that this problem is not unique in the field of physical education and athletics. Halpin explained that such a circumstance is evident when one examines the professional programs in schools of education, business, public administration, hospital administration, and social work. Still further, he stated that the more mature professional schools of medicine, law, and engineering exhibited similar problems in earlier stages of their developments. Thus, there have been many charges that the above-mentioned schools are offering "trade-school" programs. He characterized the situation as follows:

> Professional schools, however much nurtured and protected by the university, are sired by a clientele of practitioners. They are elaborations of an apprenticeship system and are close to the grass roots. Their first faculties are chosen for demonstrated success and reputation in the professional field regardless of the usual trappings of academic qualifications. Despite their popularity with students and practitioners, however, these people are considered by the rest of the university as poor relations. They are forced to defend themselves against charges that they are operating trade schools. Under pressure to attain recognized status as a profession and to achieve academic respectability, they therefore raise the academic standards for faculty members. Gradually this encourages them to think that there are other useful approaches to their subject and reduces their subservience to their immediate

> clientele. Eventually, at least in the cases of medicine and engineering, the professional school incorporates into its own structure representatives of related basic disciplines and seeks to make fundamental contributions to knowledge.

Can we in physical education and athletics argue that Halpin is not speaking about us in his description of the situation in certain professional programs in the late 1950's. If we were realistic, we might even argue that our situation is worse. Yet it is true that we are making every effort to improve the qualifications of our faculty members. But can we say that we are "considering more abstract materials and de-emphasizing techniques?" And to what extent are we incorporating "into our faculties representatives from the social sciences?"

## Big Business Within Big Education

As a result of this historical development, we now find that intercollegiate athletics is a thriving enterprise. Still further, it can be stated safely that intercollegiate athletics in higher educational institutions involves literally hundreds of millions of dollars. All of education has in fact become big business—the largest single business on the continent, and intercollegiate athletics is a business within a business, so to speak. And in a great many instances many athletic administrators would hasten to add that "the other administrators around this institution don't have to be anywhere nearly as greatly concerned with *profit and loss* as we do."

And so in the United States (and in Canada) we find a situation where everything is getting big, including education. We have big business, big government, big labor, big science, big agriculture, big religion (not so new), and big education. In the case of intercollegiate athletics, the problem seems more specifically that it is a question of big business within big education, and there are a considerable number of people who feel that these two are incompatible; in other words, like oil and water, they don't mix too well. However this may be, and it would certainly appear to be true that they will have to learn to mix better in the future, the athletic administrator is seemingly being placed increasingly in a somewhat untenable position. Why is this so? The answer would seem to be quite elementary: there is no *documented* body of knowledge; there is practically no ongoing research about the endeavor taking place; and the professional preparation of athletic administrators is not being carried out by physical educators in the best possible fashion. All of this leads a rational, concerned individual to ask the question: "What kind of a way is this to develop what could become an important profession on the continent?"

## Mutual Responsibility for the Prevailing Situation

If one were to attempt to place the blame in this matter, it is immediately apparent that it is not a black and white question. The field of physical education—and who would argue that athletics is not an important "artery in physical education's life blood,"—is most certainly not doing the job well. The reasons behind this are probably as follows: (1) it really doesn't know how; (2) it isn't considered academically respectable in many quarters to prepare administrators; (3) it is jealous of the stature of athletics within the university community; and (4) it is bitter about many of the realistic and materialistic practices employed within athletics. The field of intercollegiate athletics is in no position to "cast the first stone" either. Typically, many within this group have no respect for physical education, and they often are not professionally prepared in this area. Furthermore, physical education *is* often used as a "dumping ground" for athletes who are being sorely pressed by today's rising academic standards. In addition, not enough coaches really "do the best that they know how" when it comes to the teaching of basic instruction and undergraduate professional courses.

To top it off, many coaches are really not professionally minded in the best sense *even within* intercollegiate athletics (not to mention physical education).[2]

These statements could lead to bitter recriminations from both sides, but this would be pointless, and this is most certainly not the intent of the writers. The American Association for Health, Physical Education, and Recreation, the National College Physical Education Association for Men, and the Canadian Association for Health, Physical Education, and Recreation are making every effort to restructure their organizations in such a way that increased harmony will be possible and so that the best interests of all may be served.

All of this leads up to the point that marked progress has been made in scientific investigations in the fields of public administration, business administration, educational administration, and the behavioral sciences relative to the management of organizations and human behavior, but the sad fact is that *neither physical education as a field nor intercollegiate athletics as an enterprise within higher education is even remotely aware of this development.* In the long run such ignorance can only result in lowered status, minor catastrophe, or even disaster.

## Practitioners and Scientists Mistrust Administrative Theory

Up to the present there has been no evidence to indicate that administrators of physical education and/or intercollegiate athletics, either in practice or in administration courses, are concerned with the theoretical aspects of administration.[3] In fact, a paradoxical situation arises in physical education and athletics at the college and university level when one is imprudent enough to discuss such as thing as "administrative theory." The paradox arises because the field seems very definitely to be divided into two groups, neither of which can see the need or importance of such a subject. These two groups might be labeled as the "practitioners" and the "scientists." The practitioners can't see the need for administrative theory, and the scientists would relegate it to limbo for its nonscientific quality.

The practitioners' viewpoint stems from the belief that theory of this nature is of no use in practice. The belief is that practicing administrators are required to find immediate solutions to day-to-day problems, and that—

> The Administrators are the practical, effective, get-the-job-done men who know what will work and what will not work, because they have tried the solutions available, or they know good men who have. Further, through skill and experience and prestige, they make things work, whether or not the same device might work for others. (AASA)

The scientist within our field in higher education is opposed to the idea of administrative theory, but for a different reason. He tends to see the study of administration as merely practical and vocational in nature (a sort of intellectual red-light district!); thus, it really cannot be considered as an academic, disciplinary study. Contributing further to this position is the fact that research in administration is essentially social science research—an endeavor that has many inherent difficulties not found in natural science research. Such "difficulties" include the problem of suppressing bias; the difficulty of obtaining valid and reliable measurements; and the seeming impossibility of controlling all save one variable. This all adds up to a belief by many that such investigation is second-class research. As Gross points out, "Many great institutions of splendid achievement disdain to enter a field which they regard as vocational instead of theoretical or scientific" (Gross). The only possible rejoinder from "non-scientists" is that "scientists" are emerging so rapidly nowadays that quite soon there will be two of them available for every man, woman, and child.

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[2] It is realized that these are subjective opinions.

[3] For the purposes of this paper the delimitation of the term "administration" is based upon the following definition by the American Association of School Administrators: "Administration may be defined as 'the total of the processes through which appropriate human and material resources are made available and made effective for accomplishing the purposes of an enterprise.' "

Despite these objections, however, courses in the organization and administration of physical education and athletics have been offered since 1890 (Ziegler) and by 1927 they were included typically in professional curriculums throughout the country (Elliott). Since that time there has been a proliferation of similar courses relating to administration, supervision, and curriculum at both the undergraduate and graduate levels. In addition, an almost innumerable number of master's theses and doctoral dissertations have been deposited on the shelves of our libraries. Most of these studies involve survey method research, or some technique thereof, and there is unquestionably a body of knowledge about practice of an administrative nature. There has been practically no research in administrative theory. Furthermore, there isn't a person alive who can tell you what all of these studies relating to administrative practice add up to; it is a "monstrous, amorphous blob!" Thus, we have had an endless stream of articles, theses, dissertations, monographs, and texts on the subject of administration, supervision, and curriculum.

## The "Administrative Revolution"

The disturbing fact still confronts us as we look to the future. An *administrative revolution* has and is taking place. It is here to stay, and "modern man has no escape from the complexities of organizations and their management" (Gross). There is a dynamism about it that is sweeping aside the traditions of many generations. If you don't agree with this statement, just figure out roughly how many man-hours are spent each week in your programs with duties that are administrative in nature. We think you will find that the results are frightening. Still more frightening is the fact that the rate of change is accelerating.

## Developments in Related Fields

For all of these reasons, therefore, we believe that theory, as well as practice, has a most important role to fulfill in the professional preparation of administrators in physical education and athletics. Many leaders in public administration, business administration, and educational administration (not to mention the behavioral scientists within the social sciences) have been making significant strides in the area of administrative theory. In educational administration, for example, Halpin introduced a 1958 publication of the Midwest Administration Center by saying that—

> Traditionally, our training programs have stressed the "practical" and have concerned themselves more with techniques than with understanding. During the postwar period, however, administrators have become increasingly aware of the role of theory . . .

Similarly, a 1960 publication of the American Association of School Administrators pointed out that "of all the many areas of knowledge in which a school administrator needs to keep up to date, the most crucial, at the present time, is knowledge of administrative theory" (American Association of School Administrators). In this same publication, a great many writers, such as Moore, Thompson, Litchfield, Halpin, Walton, and Griffiths, indicated their concern for the development of administrative theory.

Interest in theoretical concepts within the field of educational administration began during the 1940's, when a "ferment in school administration" developed (Moore), and the American Association of School Administrators became concerned about the state of the profession. This concern developed because of a variety of social influences, with the result that a National Conference of Professors of Educational Administration was inaugurated in 1947. This group played a significant role in obtaining grants from the Kellogg Foundation for the study of school administration. As a direct outgrowth of this financial assistance, the Cooperative Program in Educational Administration began in 1950. A few years later the University Council for Educational Administration supplanted this Coöperative Program (CPEA) and extended its work toward the further development of the field of educational administration (Halpin).

Another facet of the "theory movement" in administration is typified in a statement by Litchfield:

> The most serious indictment which must be made of present thought is that it has failed to achieve a level of generalization enabling it to systematize and generalize administrative phenomena which occur in related fields. . . . We seem to be saying that there is business administration, and hospital administration, and public administration; that there is military administration, hotel administration, and school administration. But there is no administration.

This trend toward unity of the various fields concerned with administration has continued to grow in the past ten years since Litchfield's statement was made. Gordon indicated that there have been four approaches to administration in America (traditional, behavioral, decisional, and ecological). He continued by suggesting a conceptual framework which "permits the incorporation and comparison of many approaches as well as the joining of values, substance, and process." He believes that it will be possible to develop a "synthesis that transcends the currently competing approaches." But even though this is evident, and it does obviously have implications for a great many fields, ideas about the growth of a unified movement don't seem to have caught up with administrators of physical education and athletics. Walton's description of educational administration seems to describe our practices most accurately:

> In addition to the fragments appropriated from other disciplines, the content of the course in school administration has consisted of a description of practices, the cautious recommendation of promising techniques, personal success stories, and lively anecdotes, all surrounded with the aura of common sense, and often purveyed by a more or less successful administrator. . . . It has not done much for the development of the subject.

If this sounds familiar to you who administer, and to those of you who teach administration in physical education and athletics, you may perhaps be ready to agree that we should immediately muster a reasonable portion of our resources, human and otherwise, to meet this urgent need. A theoretical basis seems to be absolutely essential if we are to prepare ourselves to meet the attacks of current educational critics. James B. Conant, on that infamous page 201 of *The Education of American Teachers* was speaking to us loudly and clearly, and we should be forewarned:

> I am far from impressed by what I have heard and read about graduate work in the field of physical education. If I wished to portray the education of teachers in the worst terms, I should quote from the descriptions of some graduate courses in physical education. To my mind, a university should cancel graduate programs in this area.

Whether one agrees or disagrees with this statement, the criticism has had considerable effect already on the field of physical education and athletics. Witness to this influence are a number of papers at conventions, special conferences, and many articles in professional publications that attempt to justify the place of physical education in higher education. In addition, a Graduate Education Conference sponsored by the American Association for Health, Physical Education, and Recreation, will be held in Washington, D.C., in January of 1967. Still further, the Western Conference Physical Education Meetings, starting in 1964, have been devoted to "the body of knowledge in physical education," and the subject of administrative theory and practice has been included for 1966.

## The Need for Research in Administrative Theory

There are very obvious implications for the study of administration of physical education and athletics that arise out of the above concerns. The first is the ever present need for academic respectability. Even though organization and administration has a long history in professional preparation in our field, it has not achieved the recognition that has been accorded to research in the physiology of exercise, in kinesiology, in sport psychology, or in history. The emergence of sound investigation relative to administrative theory—and not only to analysis of administrative practice—could provide "substance" to this type of research endeavor.

Such an approach would mean that professors pursuing this avenue of investigation would gradually develop an inventory of current administration theory in public administration, business administration, educational administration, and the behavioral sciences. This would be supplemented by a "body of knowledge" which applies typically to physical education and athletics (and there is a considerable amount of knowledge about practice available already). This is the type of foundation which we will have to make available if future administrative leaders in our field are to have optimum preparation for their profession. Such synthesis and integration of knowledge into concepts will inevitably have considerable practical value in providing the finest kind of operational basis.

The problem of synthesis and integration of research knowledge faces professors in all disciplines today; so, it is most certainly not a unique problem to us. The knowledge explosion (as a result of expansion of research in all fields) and a rapidly changing society with its attendant "administrative revolution" have brought about a need to organize, catalogue, and make readily available the present body of knowledge in all fields. Unfortunately the interdisciplinary nature of investigation relating to administration increases the difficulty of keeping abreast of change. Other fields have found this problem crucial as well. As a result, certain of them have already made publications available with synthesized research findings and conclusions. One example of this type of work is *Human Behavior* by Berelson and Steiner. R.E. Peierls attempted a similar compilation in *The Laws of Nature*. A third example of similar research is the work currently under way by Sapora and Guillaume at Illinois, which is an attempt to retrieve and compile the literature that is needed for further research in the field of recreation. A similar effort is being made in connection with various phases of the total program by certain members of the Graduate Department of Physical Education at Illinois.

## Which Direction for Progress?—A Concluding Statement

This, then, is the situation with which we are faced if we hope to place professional preparation for administrative leadership within our field on an academically sound basis. Seemingly there doesn't appear to be much choice, *if we wish to progress*. If we continue as we have done in the past, we are doomed to second-class status within our own field of physical education and athletics. Furthermore, we will always be embarrassed when we are asked to justify our curriculums to colleagues in related fields within higher education. There is no doubt but that physical education and athletics has made greater progress in education on this continent than in any other geographical area of the world. This achievement is an accomplished fact. If we wish to continue our steady improvement, especially in relation to the professional preparation of administrative leadership, there are some definite positive steps which we must take in the very near future—and just as soon as possible. A logical progression for us to follow might be as follows:

A. *Establish the best possible criteria as goals* for the professional preparation of physical education and athletic administrators. These may be determined by the following approaches:
   1. Planning with interested and knowledgeable colleagues.
   2. Surveying literature in this and related fields.
   3. Conducting a job analysis of the requirements of the administrative positions in the field.
   4. Analyzing sociologically the past, present, and possible future structure of our society.
   5. Employing philosophical analysis of the present situation with an eye to possible prediction of the future and its demands.
   6. Constructing a logical composite of the seemingly best criteria based on the above approaches.

B. *Survey and describe accurately* what is taking place in management and training programs in business administration, educational administration, and public administration (and other related fields). In doing this, particular attention should be paid to the following:
   1. Course sequences at both the undergraduate and graduate levels.
   2. The various objectives and aims of the specific courses.
   3. To what extent emphasis is placed on theory as opposed to practice—what basic knowledge is needed and what practical skills and competencies are necessary.
   4. The knowledge and ability of graduates in the various related fields.

C. *Survey and describe accurately* current practices regarding the professional preparation of physical education and athletic directors.
   1. Follow a similar practice to that described above in regard to course sequences; course aims and objectives; emphasis placed on theory as opposed to practice; and evaluation of the knowledge and ability of the B.S., M.S., Ed.D., P.E.D., and Ph.D. graduates.

D. *Make a comparative analysis* between the programs in related fields and the programs in physical education and athletics. In so doing, note the strengths and weaknesses of each *in relation to established criteria.*
   1. Retain the strong points of the best curriculums in physical education and athletics.
   2. Where weaknesses are noted, restructure our curriculums to incorporate the stronger points of the curriculums in the related fields.
   3. If none of the curriculums examined in *any* of the various fields meet certain of the objectives listed in *the ideal set of criteria,* determine what additions and/or changes must be made in order to approximate the ideal.

      Note: This may necessitate some radical changes in present curricular patterns. It may involve course experiences in the behavioral sciences, increased use of audiovisual aids, and planned internship experiences. We simply do not know at present what changes will have to be made to produce a "fully qualified product." When we know what needs to be done, we will have to decide to what extent we will be able to approximate these standards.

E. *Provide for continuing administrative research relative to theory and practice.*
   1. Such research should employ historical, descriptive, philosophical, and experimental group methods. Employing such a broad spectrum of research methodology will of necessity involve scholars and researchers from many disciplines with a variety of backgrounds.

Note: Such a comprehensive research program would appear to be absolutely necessary to keep abreast in these rapidly changing times. In this way it may be possible to prevent a repetition of the present situation.

Whether physical education and athletics will continue to consolidate its position within the general education concept remains to be seen. *It is our task alone!* Times *are* changing, and innovation may be needed in many aspects of our total program. By way of conclusion, every effort should be made *now* to restructure our efforts so that we may offer sound administrative theory as a basis for practice in physical education and intercollegiate athletics.

## REPORTS

# President's Report

**RICH DONNELLY**

The following list is a summary of the activities carried on by the President during the year 1966:

1. Appointed the chairmen and the members of all committees for the year 1966.
2. Appointed William Harkness as NCPEAM representative on AAHPER Committee on Legislation.
3. Appointed Chalmer Hixson as NCPEAM representative on AAHPER Committee on Educational Television.
4. Served as a member of the Convention Program Committee.
5. Maintained continuous communication with all committee chairmen to lend whatever assistance and encouragement it was possible for the office of the president to provide.
6. Prepared annual report submitted to AAHPER by the NCPEAM as an affiliated organization.
7. Served as the NCPEAM official delegate to the Representative Assembly of the American Association for Health, Physical Education, and Recreation at its annual meeting in Chicago, Illinois, in March 1966.
8. Sent letter to President R. B. Frost of AAHPER in support of the Design Conference cosponsored by the AAHPER.
9. Served as one of the NCPEAM representatives on the Advisory Board of *Quest*. Attended a meeting of this Advisory Board in Chicago in connection with the AAHPER meetings in March 1966. Assisted in drawing up an operating code for the Advisory Board.
10. Presided over the meeting of the NCPEAM Executive Council held at Chicago in connection with the AAHPER meetings in March 1966.
11. Sent personal letter to over 200 delinquent members.
12. Prepared material for the three president's newsletters published in 1966.
13. Prepared and sent a letter to presidents of over 500 junior colleges throughout the country inviting them to encourage their men's physical education faculty to join our Association.
14. Worked very closely with the Historical Records Committee in developing criteria for the preservation of the Association's historical documents and in studying the possibility of establishing a "permanent" archivist as well as a repository for the Association's records.
15. Sent letter on behalf of NCPEAM to Theodore P. Bank on the occasion of his retirement as president of the Athletic Institute.
16. Assisted the President's Legislative Committee in bringing certain legislative items to the attention of the total membership of the Association and encouraged each one to write their Congressional leaders about them. The items were to protest the "proposed ruling" of the Internal Revenue Service regarding the deduction of educational expenses for teachers and to encourage the inclusion of physical education in the National Defense Education Act.

### National College Physical Education Association for Men

Data from Annual Proceedings on Membership,
Place and Date of Annual Meetings, Presidents,
and Expenditures and Balances[1]
(Compiled by Rich Donnelly—December, 1966)

| Annual Proceedings and Year Published | Roll of Members[2] | Number of Paid Members | Number of Members at Last Meeting | Date of Annual Meeting | Place of Annual Meeting | President | Expenditures | Balances |
|---|---|---|---|---|---|---|---|---|
| 34th—1931 | 172 | | 108 | Dec. 1930 | New York | Wm. R. LaPorte | $ 478.62 | $ 573.12 |
| 35th—1932 | 190 | | 105 | Dec. 1931 | New York | T. Nelson Metcalf | 700.32 | 313.05 |
| 36th—1933 | 185 | | 110 | Dec. 1932 | New York | Oliver F. Cutts | 418.32 | 380.35 |
| 37th—1934 | 173 | | 61 | Dec. 1933 | Chicago | George E. Little | 478.42 | 362.28 |
| 38th—1935 | | | | Dec. 1934 | New York | W. L. Hughes | | 316.40 |
| 39th—1936 | 187 | | 102 | Dec. 1935 | New York | C. L. Brewer | 599.80 | 173.96 |
| 40th—1937 | 184 | | 104 | Dec. 1936 | New York | E. L. Mercer | 277.25 | 266.34 |
| 41st—1938 | 183 | | 45 | Dec. 1937 | New Orleans | W. J. Livingston | 1,152.45 | 424.48 |
| 42nd—1939 | 195 | | 82 | Dec. 1938 | Chicago | Harold S. Wood | 445.45 | 399.53 |
| 43rd—1940 | 196 | | 83 | Dec. 1939 | New York | L. C. Boles | 611.81 | 348.34 |
| 44th—1941 | 212 | | 103 | Dec. 1940 | New York | Harry A. Scott | 768.88 | 222.21 |
| 45th—1942 | 216 | | 70 | Dec. 1941 | Detroit | Oliver K. Cornwell | 635.27 | 243.05 |
| 46th—1943 | 163 | no national meeting | | WW II | | E. C. Davis | 660.76 | 104.76 |
| 47th—1944 | 166 | no national meeting | | WW II | | Carl P. Schott | 247.55 | 209.55 |
| 48th—1945 | 169 | | | Jan. 1945 | Columbus | Carl P. Schott | 146.07 | 384.71 |
| 49th—1946 | 183 | | 48 | Jan. 1946 | St. Louis | Delbert Oberteuffer | 332.98 | 512.81 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50th—1947 | 217 | | 88 | Jan. 1947 | New York | Allison W. Marsh | 464.45 | 628.04 |
| 51st—1948 | 296 | | 128 | Jan. 1948 | New York | Carl Nordly | 976.63 | 748.61 |
| 52nd—1949 | 431 | | 147 | Dec. 1948 | Chicago | Lloyd Jones | 3,418.92 | 1,369.99 |
| 53rd—1950 | 513 | | 156 | Dec. 1949 | Columbus | Louis Keller | 1,042.35 | 1,167.56 |
| 54th—1951 | 504 | | 119 | Dec. 1950 | Philadelphia | Glenn Howard | 2,136.27 | 1,815.53 |
| 55th—1952 | 477 | | | Dec. 1951 | Chicago | Thomas McDonough | 1,838.77 | 2,229.78 |
| 56th—1953 | 516 | 364 | | Dec. 1952 | New York | Fred Holter | 1,429.06 | 2,377.41 |
| 57th—1954 | 562 | | | Dec. 1953 | Chicago | Elmer Mitchell | 2,441.43 | 2,386.91 |
| 58th—1955 | 541 | 429 | | Dec. 1954 | New York | William Meredith | 3,033.92 | 2,553.41 |
| 59th—1956 | 526 | 418 | 114 | Dec. 1955 | Daytona Beach | Seward Staley | 2,387.22 | 3,176.24 |
| 60th—1957 | 609 | 473 | 191 | Dec. 1956 | Columbus | Ernest Smith | 3,532.02 | 2,881.46 |
| 61st—1958 | 682 | 493 | 181 | Jan. 1958 | Santa Monica | Arthur Daniels | 3,912.07 | 2,880.49 |
| 62nd—1959 | 704 | 468 | 200 | Dec. 1958 | New York | John H. Shaw | 3,265.23 | 4,262.32 |
| 63rd—1960 | 692 | 562 | 187 | Dec. 1959 | Cincinnati | C. O. Jackson | 3,560.56 | 4,119.53 |
| 64th—1961 | 668 | 509 | 197 | Dec. 1960 | Washington, D.C. | Raymond Snyder | 5,404.51 | 2,907.46 |
| 65th—1962 | 790 | 601 | 146 | Dec. 1961 | Kansas City | J. W. Kistler | 4,112.30 | 3,549.22 |
| 66th—1963 | 932 | 671 | 161 | Dec. 1962 | San Francisco | Dick Jamerson | 4,423.80 | 4,289.54 |
| 67th—1964 | 1,049 | 716 | 155 | Jan. 1964 | Dallas | Karl Bookwalter | 3,013.83 | 5,856.18 |
| 68th—1965 | 1,081 | 734 | 214 | Jan. 1965 | Minneapolis | John E. Nixon | 7,070.44 | 3,946.79 |
| 69th—1966 | 1,242 | 704 | 183 | Dec. 1965 | Philadelphia | Arthur Weston | 7,647.74 | 4,676.78 |
| 70th—1967 | 1,220 | | 239 | Dec. 1966 | San Diego | Rich Donnelly | 7,509.98 | 5,509.24 |

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[1] The data in this table are taken from the *Proceedings* indicated in the left hand column. The roll of members is for the year following the annual meeting, i.e., the year in which the *Proceedings* were published. The information in the rest of the columns applies to the year prior to the publication year. The figures in the column entitled "Number of Paid Members" are unofficial estimates from information in the *Proceedings*.

[2] Includes members one year behind in dues payment.

17. Recommended to Harold K. Jack the names of some individuals on the Construction and Equipment Committee to serve as delegates to the forthcoming National Conference on College Facilities for Physical Education to be held in the spring of 1967.

As your President, I would like to express my deepest appreciation to the many men who have made my job an easy and enjoyable experience. My special thanks is offered to all the members of the Executive Council, to the Convention Program Committee, and its chairman Lou Alley, to the local chairman Carl Benton and his colleagues at San Diego State College, to the section officers, to the many committee chairmen, and all the members of their committees. My warmest personal gratitude is reserved for our Secretary-Treasurer Dave Matthews, for doing the host of routine things so necessary for the on-going operation of our Association. Finally, I want to thank all the membership for your support and for the opportunity to have served as your President. No other professional honor can ever mean so much to me.

# Statement of Receipts and Disbursements for the Fiscal Year Ended November 30, 1966

## EXHIBIT A

*Operating Budget Fund*

| | | |
|---|---|---|
| **Fund Balance, December 1, 1965** | | $4,676.78 |
| **Receipts:** | | |
| Membership Dues | $7,044.00 | |
| Convention and Banquet | 723.50 | |
| Publication Proceeds | 574.94 | |
| Total Receipts | | 8,342.44 |
| | | 13,019.22 |
| **Disbursements:** | | |
| Printing Newsletter and Stationery | 778.90 | |
| Supplies and Postage | 465.06 | |
| Stenographer's Services | 348.94 | |
| Secretary-Treasurer's Fee | 300.00 | |
| Audit | 148.00 | |
| Affiliated Organization Fees | 10.00 | |
| Insurance Bond | 12.50 | |
| Quest Magazine Account | 1,120.00 | |
| Necrology Expense | 31.05 | |
| Bank Service Charges | 4.57 | |
| Convention and Banquet | 482.30 | |

| | | |
|---|---|---|
| Convention Expense—Carl Benton, December 1965 | 600.00 | |
| NCPEAM *69th Proceedings* | 2,758.70 | |
| Plaques | 449.96 | |
| Total Disbursements | | 7,509.98 |
| **Fund Balance, November 30, 1966** | | $5,509.24 |

*Bank Reconciliation*

| | | |
|---|---|---|
| Balance Per Bank Statement | | $5,567.63 |
| Less Outstanding Check # 502 | $ 29.00 | |
| # 503 | 29.39 | 58.39 |
| Fund Balance, November 30, 1966 | | $5,509.24 |

*Summary of Funds on Hand*
*November 30, 1966*

| | |
|---|---|
| Checking Account—The Champaign National Bank, Champaign, Illinois | $5,509.24 |

### EXHIBIT B

*Permanent Fund*

| | |
|---|---|
| **Fund Balance, December 1, 1965** | $1,573.57 |
| **Additions:** | |
| Interest Earned During Year | 67.54 |
| **Fund Balance, November 30, 1966** | $1,641.11 |

*Summary of Funds on Hand*
*November 30, 1966*

| | |
|---|---|
| Account # 2614—Northern Valley Savings and Loan Association, Tenafly, New Jersey | $1,641.11 |

## Convention Manager's Report of the 70th Annual NCPEAM Convention

**CARL W. BENTON**

In accordance with the responsibility set forth in the NCPEAM Operating Manual, the following report is submitted on the 70th Annual Convention, which was held December 28–31, 1966, at the El Cortez Hotel, San Diego, California.

1. Early in 1965 Arthur Weston, president of NCPEAM, notified me that San Diego had been selected as the city in which the 1966 NCPEAM Convention would be held. The request by William Terry, division chairman of health, physical education, and recreation, for San

Diego State College to be host school and my offer to serve as convention manager were granted and enthusiastically accepted.

2. In November 1965 the following faculty members at San Diego State were asked and agreed to serve as chairmen of the convention subcommittees below:

William Phillips—assistant convention manager and Registration and Information Committee
Lindsay Carter—Arrangements Committee
Richard Wells—Publicity Committee
Frank Scott—Hospitality Committee
William Terry—Reception and Banquet Committee

3. During November and December of 1965 the entire faculty of the Men's Physical Education Department at San Diego State explored possible hotel sites for the convention. By unanimous vote the faculty decided to recommend the El Cortez Hotel.

4. I attended the 69th NCPEAM Convention held on December 27–30 in Philadelphia to observe operations and publicize the San Diego convention. The final meeting of the Executive Council was attended, at which time I recommended the El Cortez as the hotel for the 1966 convention. The Executive Council voted to have the meetings at the recommended hotel. Menus from the hotel were distributed and discussed.

*Note:* The El Cortez Hotel agreed in writing to meet all requirements as listed on pages 49 and 50 (5a through i) in the NCPEAM Operating Manual. Four suites were to be made available for Association officers, room rates to be $7.00, single; $9.00, double (two people); $10.00, twin (two people); rollaway beds, $3.00 each; and room rates applicable two days before and after convention.

5. At the beginning of 1966, President Richard Donnelly officially appointed the subcommittee chairmen, and the San Diego contingent went to work. Subcommittees were organized from faculty members at San Diego State College and other local colleges and universities. The committees' work was in accord with instructions given in the NCPEAM Operating Manual.

*Note:* The local Convention Planning Committee held periodic meetings for the purpose of assessing progress reports and setting goals.

6. During the entire year of 1966, President Richard Donnelly, President-Elect (chairman of Convention Program Committee) Louis Alley, and Secretary-Treasurer Dave Matthews provided our local committee with tremendous assistance. Letters, reports pertinent to the progress of the program, publicity information, convention materials for registration, etc. were but a few of the services they provided.

7. Lindsay Carter, chairman of the subcommittee on Arrangements, attended the AAHPER Convention in Chicago during March 1966 and made a progress report to the NCPEAM Executive Council.

8. Dave Matthews, executive-secretary of NCPEAM, mailed a letter written by President Donnelly to junior colleges in all states with the exception of California. The purpose of the letter was to invite these physical educators to join NCPEAM and also to attend the convention in San Diego. Dick Wells, local publicity chairman, distributed the letter and other publicity materials to the junior colleges in California. He also sent publicity materials on two occasions to Western College Men's Physical Education Society members.

9. On November 1, 1966, convention publicity materials were mailed from San Diego to approximately 1250 NCPEAM members.

10. Attendance report of the convention and special recreational-cultural activities:

a. Two hundred and thirty-seven persons registered at the convention. A total of 167 rooms were engaged at the El Cortez (about 100 singles and 67 doubles and twins).

b. Approximately 43 out-of-town wives were present. Eight wives of local faculty members were also in attendance.

c. Approximately 60 persons attended the Physiology of Exercise Laboratory and adult fitness demonstrations at San Diego State College.

d. Nine members were present at the San Diego State basketball game.

e. Fifteen persons participated in the annual handball tournament.

f. Sixty-three members and wives went by bus to Tijuana, Mexico. This seemed to be the recreational highlight.

g. Thirty-two wives went on the Thursday shopping tour to La Jolla.

h. Forty-three wives were in attendance for the trip to Historic Old Town, quaint shops, and lunch at a Mexican restaurant.

i. Fellowship of Christian Athletes breakfast—79 attended.

j. Conference luncheon—105 attended.

11. Recommendations for future conventions based on problems encountered by myself, Bill Phillips (assistant convention manager), and subcommittee chairmen:

a. Attempt to obtain speakers for the First and Third General Sessions from the immediate or a reasonably close area. The problem of raising funds from outside sources (above that which was allocated in the convention budget) to bring Associate Justice Byron White to San Diego was immense.

b. Contrary to some expressed feelings, we recommend that the "name" speaker be scheduled for the First General Session. Placing the "drawing card" speaker at the end of the convention does not seem to help attendance at that general session. We believe it would be best to apply the principle of the greatest good for the greatest number.

c. NCPEAM membership cards should be given to the chairman of the Registration Committee prior to registration, if cards are to be distributed at the convention. Many members had completed registration when the blank cards were made available, and consequently, it was decided to mail these at a later date by the executive-secretary.

d. If feasible, it would help at registration if a list of all prepaid members could be made available. Although this is not a big factor, many conferees could not remember whether or not they had paid current membership dues.

e. Bill Phillips, chairman of our Registration Committee, recommends the following:

- A minimum of two typists should be present during the afternoon-evening registration prior to convention and during the first two days. One typist would suffice on the last morning.
- Prepare to register many conferees at the afternoon-evening registration prior to start of convention. We registered approximately 80 at this time.
- Have available one regular typewriter, as well as several jumbo type typewriters, a receipt book, some blank checks, and a ditto machine and ditto paper.

f. Lindsay Carter, chairman of our Arrangements Committee, indicated that persons participating at section meetings requested a number of last minute changes pertinent to audiovisual equipment. This problem should be minimized by better communications through all channels. Section chairmen should make sure requisition forms for equipment, etc. sent out by arrangement chairman are distributed early to participants in their section. The participants should be reminded how important it is to carefully and specifically complete the form and return it early to chairman of Arrangements Committee.

g. The NCPEAM *Newsletter* which presented the entire convention program did not reach the members until the middle of December. Therefore, if this means of publicity cannot be disseminated earlier, I recommend that the convention manager include a copy of the program with convention publicity materials mailed around November 1. We received many requests for the entire program prior to members receiving the December *Newsletter*.

h. The $600.00 convention budget was adequate for the meetings held in San Diego. The financial statement sent to Dave Matthews reports $108.88 as a balance returned. I hope that future convention managers are allocated equal funds (and more when needed) to put on conventions that are commensurate with the magnitude of our Association.

I, the convention manager, am deeply indebted to President Donnelly, President-Elect Alley, Executive-Secretary Matthews, and the chairmen of the subcommittees for their faithful and tremendous assistance in helping me perform my duties. Special thanks must also be noted for the outstanding manner in which my wife, Darlene, organized and conducted the tours for visiting wives.

On behalf of the entire faculty of the Men's Physical Education Department at San Diego State College, may I say that it was a pleasure to serve the Association as host for the 1966 NCPEAM Annual Meeting. We thank the Association for providing us with the opportunity of having the convention in San Diego.

## *FINANCIAL STATEMENT*

| | | |
|---|---|---|
| **Income** | | |
| NCPEAM Convention Allotment | $600.00 | |
| FCA Breakfast Ticket Sale (79 @ $2.50) | 197.50 | |
| Convention Luncheon Ticket Sale (105 @ $3.50) | 367.50 | |
| **Expenses** | | $1165.00 |
| Honorariums: | | |
| Associate Justice Byron R. White | 100.00 | |
| Dr. Ransom Arthur | 35.00 | |
| El Cortez Hotel: screen rental, parking, flowers, incidentals | 40.21 | |
| Publicity Mailing (1300 @ 10¢) | 130.00 | |
| Long Distance Telephone Calls | 16.53 | |
| Printing of Publicity Materials | 28.60 | |
| Hotel Parking for Faculty and Student Workers | 8.00 | |
| Dinner for Tourist and Convention Secretary | 2.85 | |
| Audiovisual Equipment Rental | 117.60 | |
| Recording Tape | 4.98 | |
| Tickets for Host and Hostess to Tijuana | 7.00 | |
| Complimentary Breakfast Ticket—Reverend Moomaw | 2.50 | |
| Paid to El Cortez Hotel for Breakfast and Luncheon Costs | 562.85 | |
| | | $1056.12 |
| **Balance of Convention Allotment Returned to NCPEAM** | | 108.88 |

# Report from *Quest* Advisory Board

**EARLE F. ZEIGLER**
Chairman, 1965–66

The chairman of the *Quest* Advisory Board shall be the appointed member who is in the final year of appointment. In this case, during the organizational period, the chairman's appointment was made by President Arthur Weston in November 1965. It continued officially until June of 1966, at which time Margaret Mordy, official representative from the NAPECW, was slated to become chairman of the Board.

The primary charge to the new chairman in November of 1965 was to see to it that an operating code was developed as soon as possible. The members of the *Quest* Advisory Board at that time were as follows:

1. Margaret Mordy, NAPECW, 1965–67
2. Delbert Oberteuffer, NCPEAM, 1965–68
3. Earle F. Zeigler, NCPEAM, 1965–66 (chairman)
4. Celeste Ulrich, NAPECW, (president)
5. Arthur Weston, NCPEAM (president)
   (superseded by)
   Richard J. Donnelly, NCPEAM (president)
6. Pearl Berlin, NAPECW (editor), ex officio
7. David Bischoff, NCPEAM (business-circulation manager), ex officio
8. Marvin Eyler, NCPEAM (associate editor), ex officio

With considerable help from Dr. Ulrich, Dr. Weston, and Drs. Berlin, Bischoff, and Eyler, an agenda was prepared for a meeting of the *Quest* Advisory Board to be held on March 17, 1966, at the Conrad Hilton Hotel. After a lengthy discussion about the proposed operating code, the chairman was asked to draw up a tentative operating code for the ultimate approval of the Board. After a period of seven months, during which time rough drafts of the proposal were distributed to the various Board members, the final draft was approved by the Board in October 1966.

Further correspondence with Board members indicated that it would be advisable to present the following items for the consideration of the Executive Council of the NCPEAM at its meeting on December 28, 1966:

1. The *Quest* Advisory Board report by the chairman (courtesy of David Bischoff, business-circulation manager)
2. The *Quest* report, submitted by Pearl Berlin, editor, to the Executive Board of the NAPECW, March 15, 1966
3. The Operating Code of the *Quest* Advisory Board as approved by the Board itself
4. The tentative table of contents of the winter issue of *Quest* (December, 1966)

## *OPERATING CODE*

*Quest Advisory Board*

(Approved by Board, October 1966)

**A. Name of Committee**

The name of this committee is the *Quest* Advisory Board.

**B. Purpose**

The purposes of this Board are to—

1. Serve as a liaison between the National Association for Physical Education of College Women and the National College Physical Education Association for Men in regard to the joint publication of *Quest*.
2. Establish general policies concerning the publication (typically of a noneditorial nature).
3. Report annually to each parent association regarding the functioning of the *Quest* Advisory Board and its officers and members.
4. Make recommendations concerning changes in policy. It is assumed that significant changes would require joint ratification of the parent associations.

**C. Plan of Organization**

1. This is a standing committee sponsored jointly by the NAPECW and the NCPEAM.
2. The Board shall be composed of a chairman and four members. Three members shall be appointed by the respective parent associations, and the presidents of the NAPECW and NCPEAM shall serve as voting, ex officio members. Appointment to the Board shall be for a three-year term, such term ending at the conclusion of a specific annual meeting. The NAPECW will appoint a member in even-numbered years, and the NCPEAM will appoint a member in odd-numbered years. The chairman of the Board shall be the appointed member who is in the final year of appointment. New Board members should be invited to attend the annual meeting as observers. (*Note:* During the first year of Advisory Board operation, 1965, the NAPECW will appoint one of its members for a two-year term. The NCPEAM will appoint two members, one for a one-year term who will serve as chairman, and one for a three-year term.)
3. The editorial and business functions of the publication shall be carried out by three non-voting, ex officio members of the *Quest* Board: (1) the editor, (2) the associate editor, and (3) the business-circulation manager. The editor shall serve for a two-year term after having served a two-year apprenticeship as associate editor. The appointment of the business-circulation manager shall be at the discretion of the Advisory Board. (*Note:* In 1967, it will be the NAPECW's turn to appoint an associate editor; in 1969 it will be the turn of the NCPEAM; etc.)

**D. Plan of Work**

1. The editor and the business-circulation manager shall report annually to the *Quest* Board at a meeting held before, during, or after the annual AAHPER Convention.
    a. Editorial policy shall be the prerogative of the editor in consultation with the associate editor. It is assumed that the chairman of the Board, and possibly other Board members, would be polled if marked deviations in editorial policy are contemplated. The intent of this statement is to allow as much freedom as possible to those people who have assumed the professional responsibility for the execution of this task. In this connection, it should be mentioned that the editors' major concern should be related to the content and style of the articles. They should not have to be bothered with poor writing mechanics.
    b. The chairman of the Board will conduct normal business by mail, or perhaps occasionally by telephone, between annual meetings of the Board.
2. Articles of agreement between the two parent associations are recommended concerning the financial investment in *Quest* (including the disposal of funds on hand if publication should cease for any reason).

3. The editor, in consultation with the associate editor, shall be empowered to set up a *Quest* editorial review panel along the lines of the preliminary draft submitted in March of 1966.
4. Courtesy copies of the publication should be made available to the editors, the business-circulation manager, authors, and sponsoring organizations in limited number. After the authors, for example, are given two copies, sponsoring organizations one, and the editors ten-fifteen (or more copies as necessary), it is recommended that authorized courtesy copies at the editor's discretion be available for one dollar. The charge for other extra copies should be two dollars each.
5. The opportunity for authors to obtain reprints of their articles at reasonable rates should be made available.
6. At the discretion of the editor, nonprofit agencies should be allowed to secure article reprints on a cost-plus-handling basis. In addition, such agencies, with the author's permission as well, may request permission to reprint specific articles (giving acknowledgment to *Quest*). Profit-making organizations, however, must pay the going rate for such a privilege after the appropriate permissions have been obtained. Any profit obtained in this latter way will accrue to the *Quest* account.
7. The business-circulation manager is empowered to establish *Quest* as a nonprofit trust in order to take advantage of available taxation legislation and special mailing privileges.
8. The business-circulation manager is empowered to take the necessary action for the copyrighting of the various issues of *Quest* magazine.
9. For the protection of all concerned, the business-circulation manager is empowered to secure an annual audit of his records by a licensed attorney.

## E. Financial Support

1. *Quest* is typically a semiannual publication. The financing of this venture is the joint responsibility of the NAPECW and the NCPEAM. These associations shall guarantee the financial "security" of the publication by an annual, per capita membership contribution to the *Quest* treasury. The editors and the business-circulation manager shall make every effort to be prudent in their expenditures, but these officers, and the institutions whom they represent, shall not be expected to contribute to the budget of this publication in any way. This means that—
   a. The incidental expenses, as well as the major expenditures, will be the responsibility of the *Quest* treasury. This includes such items as stationery, postage, telephone calls when necessary, and occasional trips, when absolutely necessary, by the officers. This does not include travel expenses of Board members or officers on the occasion of the annual meeting (the location and time of which is explained above).
   b. The business-circulation manager should make every effort to keep the editor and associate editor fully informed concerning the status of the budget. When necessary, the Board chairman shall be informed of any pending "financial crisis." This information, with any recommendation jointly agreed upon by the officers, shall be forwarded to the entire Board as soon as possible. The respective presidents of the two associations could then relay this information and/or recommendation to their boards of directors for action.

## Executive Council Meeting

December 28, 1966
San Diego, California

Present: Donnelly, Alley, Weston, Matthews, Cherry, Cutler, Slaughter, Odenkirk, Clarke, Schnitzer.

1. Meeting was called to order at 7:10 p.m.
2. Minutes of previous meeting were approved as distributed.
3. Alley reported on the program preparation for the San Jose meeting. He indicated that he had had fine cooperation from the section chairmen, the convention manager, and his staff. He asked for the names of the persons who would be presiding at the section meetings in case persons originally assigned would not be present.
4. Benton reported on the convention outline and special events.
5. Cutler reported for Korsgaard on the work of the Operating Code Committee. Moved by Cutler, seconded by Cherry that the changes in the Operating Code be made available to the persons needing them. Motion carried.
6. Bischoff presented a report on Quest Operating Code, which code had been prepared by the Quest Advisory Board. The report was referred to further discussion at the next Executive Council meeting.
7. The Time and Site Committee report was made by Havel. The Committee recommended Durham as the site of the 72nd Annual Meeting. Havel moved, Weston seconded the acceptance of the report. Motion carried.
8. Reid's report from the Finance Committee brought a motion by Cutler, seconded by Odenkirk, that the travel expenses be paid by the Association for the president, president-elect, and the secretary-treasurer. Motion carried. Reid moved the acceptance of the proposed budget. Seconded by Slaughter. Motion passed.
9. Reid moved that the secretary-treasurer's fee be increased from $300 to $500. Seconded by Slaughter. Motion carried. This motion is subject to change in the Constitution.
10. Secretary-treasurer's report by Matthews was received.
11. Meeting adjourned at 10:15 p.m.

## Executive Council Meeting

December 29, 1966
San Diego, California

Present: Donnelly, Schnitzer, Cutler, Slaughter, Odenkirk, Alley, Cherry, Weston, Ryan, Matthews.

1. Meeting was called to order at 8:05 a.m.
2. Minutes of the previous meeting were read and approved.
3. After Husman presented his report on the Legislative Committee, Schnitzer moved and Slaughter seconded a motion that the Legislative Committee be made a standing committee.
4. Odenkirk read the report of the Membership Committee. Weston moved that recommendation for membership need not involve an endorsement of an active member; the secretary-treasurer would be authorized to accept or reject a person for membership by indicating so on the application. Motion was seconded by Odenkirk and passed unanimously.
5. Alley moved that the secretary-treasurer draw up a flyer publicizing the NCPEAM. Seconded by Donnelly. Motion carried.

6. Cherry moved to accept the Operating Code of the Advisory Board of Quest. Seconded by Alley and motion was passed.
7. The secretary-treasurer stated that he would send out a dues notice in February.
8. Meeting adjourned at 9:30 a.m.

# MINUTES, ASSOCIATION BUSINESS

## First General Session

December 29, 1966
San Diego, California

1. The meeting was called to order by President Donnelly at 3:40 p.m.
2. General announcements were made about the on-going convention.
3. The General Session speaker was Ransom Arthur.
4. The president's report was given by Donnelly.
5. Joint committee reports were presented by the respective committee chairmen and received.
6. President's committee reports were presented by the respective committee chairmen and received.
7. The Quest Board report was made by Bischoff and received.
8. The Constitution Committee report was delivered by Bearden. The following changes were recommended by the Committee. Each was seconded and passed unanimously.
    a. Article V, Section 1—The Western College Men's Physical Education Society consisting of College physical educators in the eleven Western states . . .
    b. Article XI, Section 6—In the event of dissolution of the National College Physical Education Association for Men, all unencumbered funds will be forwarded to the American Association for Health, Physical Education, and Recreation, Washington, D.C.
    c. Article III, Section 4—He shall receive a sum annually for clerical and other services, if funds permit, as determined by the Executive Council.
    d. Article IV, Section 4—the Legislative Committee shall be a standing committee.
9. Meeting adjourned at 5:15 p.m.

## Second General Session

December 30, 1966
San Diego, California

1. The meeting was called to order at 10:50 a.m. by President Donnelly.
2. The secretary-treasurer's report was read by Matthews and received by the members present.
3. Weston gave the report of the Nominations Committee. The slate presented was as follows:
    President-elect: Burris Husman and Charles Kovacic
    Delegate-at-large: Russ Cutler and Marvin Eyler
    Secretary-treasurer: David Matthews
4. Results of the election of officers:
    President-elect: Charles Kovacic, University of California, Davis
    Delegate-at-large: Russ Cutler, University of Washington
    Secretary-treasurer: David Matthews, University of Illinois
5. Reid gave the Finance Committee report. Its acceptance was moved by Husman, seconded by Brown, and passed unanimously.

6. Wiley made the Membership Committee's recommendations known. They were that the following should be given honorary membership status:
   Arthur H. Steinhaus, Michigan State University
   Karl W. Bookwalter, Indiana University
   Oliver K. Cornwell, University of North Carolina
   Glen E. Galligan, Washington State University
   Ray Oosting, Trinity College
   Chester O. Jackson, University of Illinois
   Conrad S. Moll, New Mexico State University

   Moved, seconded, and passed that the above be made honorary members.
7. The Necrology Committee report was submitted by Steve Brown. Testimonies were read for the following deceased members: Arthur Daniels and Jesse Williams.
8. Sprague moved the adoption of the recommended changes made in the Association policies as suggested by the Policies Committee. Motion was seconded and passed.
9. The report of the Public Relations Committee was made by Odenkirk and received.
10. Kovacic gave the report of the Resolutions Committee. They were accepted.
11. The Television Committee report was read for Hixson by Donnelly and received.
12. A Legislative Committee report was given by Harkness and it was received.
13. Meeting was adjourned at 12:30 a.m.

# STANDING COMMITTEES

## Constitution Committee

In correspondence from President Donnelly last February the Constitution Committee was given several items to take under advisement. With the assistance of President Donnelly, Dave Matthews, and members of this committee the following four changes are recommended:

1. Article V, Western Division of the Constitution, Section 1

   Presently reads:

   The Western College Men's Physical Education Society consisting of certain physical educators in the eleven Western states . . .

   Proposed change:

   The Western College Men's Physical Education Society consisting of College physical educators in the eleven Western States . . .
2. The Committee recommends to the Executive Council that Article XI, Section 6 (Finance) of the By-Laws be changed.

   Presently reads:

   In the event of the dissolution of the NCPEAM, all funds will be distributed equally among all active members.

   Proposed change:

   In the event of dissolution of the National College Physical Education Association for Men, all unencumbered funds will be forwarded to the American Association for Health, Physical Education, and Recreation, Washington, D.C.

   Explanation: In order for our Association to qualify as a nonprofit organization, a statement of this kind must be included in the By-Laws. We could have named any nonprofit organization as the receiver. We felt the AAHPER would be the approved receiver.
3. In order to be consistent with the recommendations of the Finance Committee, the following change is recommended in Article III, Section 4.

   Presently reads:

   . . . He shall receive a sum of three hundred dollars ($300) per year for clerical and other services, if funds permit as determined by the Executive Council.

**Proposed change:**

. . . He shall receive a sum annually for clerical and other services, if funds permit, as determined by the Executive Council.

4. The Executive Council approval to make the Legislative Committee a standing committee will necessitate adding the committee to Article IV, Section 4.

Respectfully submitted,
**Frank Bearden**
*Chairman*

# Finance Committee

The Committee conducted its business this year by mail ballot. It submitted the following recommendations for approval by the Executive Council and the membership of NCPEAM:

1. The Proposed budget for 1967, as submitted by David Matthews, secretary-treasurer:

*Proposed Budget for the NCPEAM for 1967*

| | |
|---|---|
| Reserve fund carried over December 1, 1966 | $ 5,509.24 |
| **Receipts:** | |
| Membership Dues 700 @ $10 | |
| Publication Sales | $ 7,044.00 |
| Total Receipts | $12,553.24 |
| **Expenditures:** | |
| Proceedings | $ 2,758.70 |
| Annual Meeting | $ 600.00 |
| *General Operations | $ 2,000.00 |
| **Services | $ 500.00 |
| ***Investment | $ 2,000.00 |
| ****Contingency (Pres. Fund) | $ 200.00 |
| Officers' Travel Fund | $ 600.00 |
| Quest 700 @ $2.00 | $ 1,400.00 |
| Total Expenditures | $10,058.70 |

It should be noted that the items starred above, were reviewed by the Committee. Since the increase for services of the secretary-treasurer requires a Constitutional amendment, this recommendation was forwarded to the Constitution Committee for action.

The Quest budget, which appears elsewhere in the *70th Proceedings*, is for the period December 1, 1965, to November 30, 1966. Since the fiscal year for *Quest* begins on March 1, it is recommended that the annual report of *Quest* be published in the *71st Proceedings*, after review by the 1967 Finance Committee. David Bischoff, business manager of *Quest*, has recommended to the Committee that no increase in per member allotment for *Quest* is anticipated for 1967.

2. The approval of $50.00, or less, if needed, for the Legislative Committee to mimeograph and send its report to the membership in 1967.

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*Increase of $500.00
**Increase of $200.00
***Increase of $1,700.00 (for 1967 only)
****Increase of $100.00

3. That the Executive Council consider a request which was submitted to the Finance Committee regarding the feasibility of paying travel costs for the president to attend the annual meeting of the NCPEAM.

Respectfully submitted,
**James P. Reid**
*Chairman*

# Foreign Relations Committee

Not in recent years has enthusiasm for the work of the Foreign Relations Committee of NCPEAM been stronger; there is both a collection of interest and a sense of responsibility evidenced among this group.

Many of the members of NCPEAM are actively engaged with ICHPER, with the International Relations Section of AAHPER, with the Peace Corps, with the People-to-People Sports Committee, as examples. Others, having served overseas assignments with Fullbright or Fulbright-Hays and other programs, retain their strong interest in international developments and form an invaluable reserve of experience and knowledge. We understand the need for increased international cooperation in sports and physical education and that the need will be intensified. There are indications that programs of exchange will be broadened by our federal government. The NCPEAM looks forward to this with a full intention of looking to an understanding of its role in shaping the direction that such developments will take along with others of related interest.

There is overwhelming evidence that, despite personal successes by many of our overseas assignees—and our sports specialists have been largely outstandingly successful—some underdeveloped countries are not prepared for and cannot afford the luxury or permissive programs with which we have been able to indulge ourselves in this country. In fact, some of our neighbors to the South, having a European background in sports and physical education, are looking again in that direction for much needed help in leadership.

Some of the efforts of our Committee have been personal and, while small, each in the long view may be important:

1. We were represented at the AAHPER International Relations Section breakfast meeting held in connection with the Chicago Convention by Dean Cy Morgan of Ithaca College. Contact was made with the chairman of the AAHPER International Relations Section, offering our cooperation.
2. With the approval of Past President Weston, President Rich Donnelly, and President-Elect Louis Alley, we have begun the solicitation of state presidents and editors of newsletters and journals asking their help in this and in extending state and district level programs on the subject.
3. We have commended the editor of the Canadian Journal on an article carried in the AAHPER *Journal*. We have suggested he and others submit further articles dealing with Canadian programs.
4. We were unable to be represented at the ICHPER Summer Conference in Seoul but we have maintained contact with this organization.
5. We have aided in the nomination of Mexican representation to ICHPER.
6. We have sought to focus attention in limited local situations on the possible exchange of ideas from foreign nationals in the area of sports and physical education.

A projected program for a two year period follows:

We hope at this convention to more carefully evaluate the contributions that may be accepted from European systems of physical education—both East and West—with emphasis on professional education.

Our second year will focus attention on the 1968 Olympics. An effort will be made to stimulate an interchange of ideas and of personnel with Mexico. Some enthusiasm has been evidenced in Mexico—its history, its cultural background, and the place of sports in physical education in that country. Our 1968 convention program will be geared at that level.

At present the Foreign Relations Committee of NCPEAM is comprised of the following:

| | |
|---|---|
| Michael S. Yuhasz, University of Western Ontario | (1966) |
| Marvin H. Eyler, University of Maryland | (1967) |
| Harold J. Vanderzwagg, University of Illinois | (1967) |
| Cecil W. Morgan, Ithaca College | (1968) |
| Michael Yessis, Chico State College | (1968) |
| Raymond Ciszek, AAHPER (ex officio) | (1966) |
| Maurice A. Clay (Chairman), University of Kentucky | (1966) |

Our group is willing to discuss cooperative effort with any group that has similar interest and motivations.

Respectfully submitted,
**Maurice A. Clay**
*Chairman*

## Historical Records Committee

At the AAHPER convention in Chicago in March 1966, Lawrence Locke, Guido Foglia, NCPEAM President Richard Donnelly, and I met and discussed the Committee's work for the year. It was agreed that as chairman of the Historical Records Committee I should attempt to draw up criteria and proposed procedures for the acquisition of records for the Association's archives, circulate this proposed plan to the members of the Committee for their comments, suggestions, and changes during the summer of 1966 with the revision of this plan being presented to the NCPEAM membership at the 1966 convention in San Diego, California, in December.

With this background the Committee proposes that the following criteria and procedures be instituted by the NCPEAM to systematically accumulate historical evidence of its operation.

### The Content of the NCPEAM Historical Records

The body of the NCPEAM archives should not serve the function of a library, a business file, or a museum collection, but the archives should contain records and materials that are produced by the Association for a particular, functional purpose. When materials enter the archives for preservation it is presumed that their primary purpose has been served; otherwise, such materials properly belong in the hands of the officers responsible for the functions involved. The historical records should grow in a natural orderly way, as the functional reflection of the Association.

To provide this functional reflection of the Association several broad classes of materials should be included in the historical records of the NCPEAM.

*Class I—Public or Operational Records*

Class I records include materials having to do with the administration of the Association and the formal output of the Association in terms of its publications.

Class I records to be retained in the Association's archives include:

1. NCPEAM *Proceedings* (2 copies)
2. NCPEAM *Newsletter*
3. *Quest*
4. Any other publication sponsored or cosponsored by the Association.

5. Correspondence by the Association officers, section chairmen, and standing committee chairmen on NCPEAM business.

*Class II—Informational Records*

Class II records include those materials having a historic interest for what it has to say about persons, places, and subjects with which the Association deals. This material does not derive from any systematic or annual function within the organization. Such material includes records which touch upon the nature of the Association such as—

1. Manuscripts of addresses
2. Books
3. Articles
4. Photographs
5. Other informal records

## Procedures for the Acquisition of Public and Information Records

In regard to the acquisition of public records, (Class I).

1. The chairman of the Historical Records Committee should bear the responsibility of being certain that copies of the NCPEAM *Proceedings*, the *Newsletter*, *Quest*, any any other publication sponsored or co-sponsored by the Association be on file in the archives of the Association at the Klapper Library, Queens College, New York. The acquisition of these published records should be financed through the Association's Secretary-Treasurer.
2. The Chairman of the Historical Records Committee should request the filing of correspondence by the Association officers, section chairmen, and standing committee chairmen on NCPEAM business from these officers of the Association with the Klapper Library, Queens College, New York. These materials should be filed in January of each year.

The officers and chairmen of sections and committees of the Association are solely responsible for judging the primary value of the records (for example, administrative, fiscal, and legal correspondence needed for the conduct of the Association's business). When primary value is exhausted, the officer and the Historical Records Committee should have a cooperative agreement for undertaking the judgment as to which records are to be destroyed and which records are to be retained. The final responsibility for permanent retention on the basis of secondary value should be exclusively in the hands of the Historical Records Committee.

In regard to the acquisition of informational records (Class II),

1. The members of the Historical Records Committee should be responsible for the acquisition and disposition of informational records. (The services of the Association's membership in accumulating these records may be solicited through the NCPEAM *Newsletter* and by announcements at section meetings at the annual convention.)

Having spent the past year in developing these criteria and procedures, members of the Committee feel the next important step that the Committee should consider is the selection of a "permanent" archivist and depository for the historical records of the Association.

Respectfully submitted,
**Arnold W. Flath**
*Chairman*

# Legislative Committee

The president of the NCPEAM established as a president's committee a Legislative Committee on February 9, 1966. Members appointed were Chalmer Hixson, Ohio State University; Larry Locke, Columbia University; John Nixon, Stanford University; James Odenkirk, Bowling Green State University; Ross Merrick (ex officio, AAHPER), and Burris F. Husman, chairman, University of Maryland. Later William Harkness, San Francisco State College, was added as a member and is the legislative liaison member to the AAHPER.

Initially two questions were posed to the Committee: (1) Should there be a Standing Legislative Committee in the NCPEAM? and (2) What approach should the Committee take to be of the most value to the NCPEAM and the profession?

The chairman of the Legislative Committee met with the Executive Committee of NCPEAM in Chicago and made the following report based on correspondence with members of the Committee.

1. There should be a standing committee on legislation as a structure of the NCPEAM, particularly since legislation will have such a tremendous influence upon our programs in the future.
2. Various suggestions concerning the second question have been recorded and will be discussed further during a meeting of the Legislative Committee, which is scheduled to be held in Chicago during the meeting of the AAHPER.
    - a. We should establish a working relationship and work together to support legislation with other groups, such as the NAPECW, AAHPER, AMA, Bureau of Outdoor Recreation, National Recreation and Parks Association, Wilderness Society, etc.
    - b. Make a collection and duplicate several successful and unsuccessful proposals for securing funds in various areas, along with the governmental instructions or guides for securing such funds.

The Committee met with President Donnelly in Chicago during the AAHPER meeting to discuss (1) sources of funds available for research through legislation and (2) ways and means of securing these funds.

Upon the chairman's return from Chicago he discovered that Harrison Clarke had prepared a paper describing the sources of funds available for the President's Council on Physical Fitness. A copy of this report was distributed to the Committee for study. It was decided that this report should be updated with any other sources available and distributed to the membership of the NCPEAM. The chairman appointed James Odenkirk and Chalmer Hixson to update the Clarke report.

In regard to ways and means of securing these funds, the chairman appointed Larry Locke and John Nixon to collect copies of research proposals which have been submitted. Whether this can be done and how this information will be disseminated to the membership will be discussed at the annual meeting of the NCPEAM in San Diego.

Dr. Hixson learned that the Internal Revenue Service proposed to eliminate the deduction of education expenses by teachers in the computation of their personal income taxes. Under date of August 17 with the approval of President Donnelly, Dr. Hixson prepared and sent to the membership a memorandum instructing members of NCPEAM to write protesting this action and to write in support of adding school health and physical education to the National Defense Education Act. The response of the membership was overwhelming, and IRS immediately rewrote its teacher income tax deduction policy. In the meantime, since the profession should not rely on the personal policies of IRS, Representative May from the state of Washington has introduced Bill HR18127, which is intended to establish legislation concerning the deduction of income taxes for teachers furthering their training. It is believed that several additional bills will be introduced at the next session of Congress. The National Education Association is working on this problem and will guide further action for our membership.

Although we failed to secure the amendments to Titles III and IX of the NDEA, it is believed this legislation will be passed during the next session of Congress.

Your chairman was asked by William Harkness to represent the NCPEAM at the Legislative Planning Conference held in Washington on December 11–12, 1966. At this meeting plans were made for future legislation affecting our disciplines. In the future, you will again be asked by the AAHPER and/or the NCPEAM to support this legislation.

I want to thank the members of the Committee for their excellent response to the "charge" given us by President Donnelly and thank all of the members of the NCPEAM for writing concerning deduction of income tax for additional teacher preparation and in support of adding school health and physical education to the NDEA. I appreciate very much the opportunity to serve the membership of the NCPEAM in this capacity.

Respectfully submitted,
**Burris F. Husman**
*Chairman*

## *AAHPER AND NCPEAM*

This is a very brief report on a few specific efforts by AAHPER and by district and state HPER associations to mobilize forces for positive legislative action in the years ahead.

### AAHPER Legislative Planning Sessions

On December 11 and 12, 1966, Carl Troester, Jr., called together a representative group of persons from the legislative committees of AAHPER, the Society of State Directors, and NEA and other consultants to prepare a proposed federal legislative program for use during the 90th Congress. At my request, Burris Husman, chairman of our NCPEAM Legislative Committee, was invited to sit in on the meetings to help develop a statement of the content of legislation that we would like to see become federal law.

A complete report is not available at this time, but the committee established the following list of ten areas in which legislation is needed:

1. Professional development
2. Recruitment of teachers (hold career conferences)
3. Strengthen leadership
4. Expand research programs
5. Building construction and renovation
6. Supplies and equipment
7. Health programs for children
8. Strengthen instructional programs (innovations, adapted programs for the mental and physically handicapped, subprofessional aides, international teacher exchanges, adult education, vocational and extension programs by the universities, mobile learning laboratories, etc.).
9. Encourage creative art
10. Develop a school and community enrichment program

In addition, it appears that AAHPER will back the legislative proposals submitted by the Fitness Commission and then try to look at long range plans for legislation relating to the ten items listed above.

The problem of recurring supportive legislation is a complex one, and more and more professional groups are recognizing the need to work together to support legislation if it is going to be enacted.

A good case in point is the recent proposal by the Internal Revenue Service to eliminate the deduction of education expenses of teachers. Members of NCPEAM, NEA, AAHPER, various state HPER associations, etc. got to work, acted quickly, and the result was that the IRS restructured its proposal and new legislation of a more supportive nature may be forthcoming during 1967.

Unfortunately, our cooperative efforts to amend Titles III and XII of the NDEA were not successful. However, Senator Morse, chairman of the Senate Education Committee, has indicated that his committee will give every consideration during the 90th Congress to extending the NDEA to the important curriculum areas of health and physical education.

## Midwest District, AAHPER

Chalmer Hixson, the president-elect of the Ohio HPER Association, served as the chairman of a special Conference on Legislative Activities of Associations for Health, Physical Education, and Recreation held in Pokagon State Park, Angola, Indiana, on September 29–30, 1966. Representatives from the HPER associations in Illinois, Indiana, Michigan, Ohio, West Virginia, and Wisconsin met with consultants from the Division of Federal Relations of the NEA, and the Illinois Education Association to discuss legislative problems. In addition to some other very practical suggestions, the conferees developed the following:

*Recommendations to the Midwest District of the*
*American Association for Health, Physical*
*Education, and Recreation*

1. Encourage each state association to affiliate more actively with its state education association, and through this channel with the National Education Association.
2. Request AAHPER to secure the placement of one member in each state on Mrs. Gereau's (legislative consultant, NEA) mailing list for information such as *Flash*.
3. Encourage the six state associations to organize committees on legislation and to provide each committee with adequate financial support.
4. Encourage the AAHPER to develop guidelines for the state committees.
5. Encourage the AAHPER to sponsor a national leadership conference on legislation for representatives from the state associations.
6. Encourage the AAHPER to develop a system for calling the states to action—a version of the NEA *Flash*.
7. Encourage the Committee on Legislation of AAHPER to sponsor programs on technique and knowledge at the national conventions to further develop legislative sophistication in our members.
8. Encourage the six state associations to sponsor special programs at the conventions.
9. Sponsor special programs at the Midwest conventions.
10. Provide opportunities for the development of legislative leadership in the six states for the exchange of information and for cooperative relationships among them. Future leadership conferences and a formal committee consisting of the chairmen of the state committees and other leaders are suggested for consideration.

These recommendations are appropriate for every district, for every state HPER association; the members of the NCPEAM should work to involve themselves as much as possible in implementing them.

## California

The state of California has had a daily physical education requirement for all pupils in the public schools since a legislative enactment in 1917, but in recent years HPER leaders have had to engage in stepped-up political action to stave off a host of legislative proposals that would have been detrimental to HPER programs in the schools. CAHPER leaders have been successful in their efforts only because of the large amounts of time and money they have spent and because they have developed a very elaborate arrangement for effective political action when necessary or advisable.

At the present time, California HPER leaders are working on plans to develop added public support for HPER by capitalizing on the fact that 1967 is the fiftieth anniversary year of the daily requirement. C. Carson "Casey" Conrad, chief of the Bureau of HPER, is spearheading the drive for this public relations venture with strong representation from past and present leaders of CAHPER. Plans are to develop the following:

1. A CAHPER 50th anniversary project.
2. A concurrent legislative resolution submitted at the very opening of the legislature through Jesse Unruh and Robert Monagan of the Assembly and Eugene McAteer and Hugh Burns of the Senate.
3. City, county, and school board resolutions such as a mayor's proclamation, etc.

4. A series of approximately five news releases relating to the contribution of physical education in the different major areas during the past fifty years; high athletic achievement of graduates of California high schools; preparedness for military service; physical performance and achievement tests; authoritative statements of national leaders; and health of Californians.

### Maryland

Maryland AHPER is reactivating its Committee on Legislation to help passage of AAHPER supported federal legislation, and to encourage the Maryland legislature to provide more federal money for the development of college HPER buildings and facilities.

### Recommendations

1. It is recommended that NCPEAM investigate possibilities for improving communication on legislative matters between various professional groups such as the AMA, NEA, state HPER and education associations, and the leaders of politically powerful nonprofessional groups.
2. It is further recommended that ways be explored with AAHPER, etc. to ensure that all members of legislative committees receive a packet of legislative materials and guidelines for constructive political activity so that more cooperative and effective legislative activity may result.

Respectfully submitted,
**William W. Harkness**
*Co-representative, AAHPER and NCPEAM Legislative Committees*

## *FEDERAL SUPPORT FOR FACILITIES, PROGRAMS, EDUCATIONAL RESEARCH, AND RESEARCH TRAINING IN THE AREA OF PHYSICAL EDUCATION*

The agencies listed below administer federal funds that are potentially available for the support of projects in the area of physical education. This is not a list of funding programs (by legislative or popular titles). In many instances, an organizational subunit of the agency listed is directly responsible for providing information concerning the availability of funds, for the preparation of proposals, and for receiving and passing upon completed proposals. In some instances, the support available through a given agency is strictly limited to projects in certain closely defined categories, for example, physiological research on human performance factors of interest to the military.

I. *United States Office of Education, Washington, D. C. 20202*
   1. Elementary and Secondary Education Act
      A. Division of Program Operations (Title 1)
      B. Division of Plants and Supplementary Centers (Titles II and III)
      C. Division of Laboratories and Research Development (Title IV)
      D. Division of State Agency Cooperation (Title V)
   2. Higher Education Facilities
      A. Technical Institutes (Undergraduate)
      B. Division of College Facilities (Undergraduate)
      C. Bureau of Higher Education (Graduate)
   3. Division of Educational Personnel Training (Training Teachers of the Handicapped)
   4. Bureau of Research
      A. Division of Elementary and Secondary Research
      B. Division of Adult Vocational Research
      C. Division of Higher Education Research
      D. Division of Laboratories and Research Development
      E. Division of Research Training and Dissemination

    5. Division of Elementary and Secondary Cooperative Research in Curriculum
    6. Office of Educational Television
II. *The Office of Economic Opportunity, Washington, D. C. 20506*
    1. Community Action Programs
    2. Volunteers in Service to America (VISTA)
    3. Project Head Start
III. *Bureau of Outdoor Education, U. S. Department of the Interior, Washington, D. C. 20240*
IV. *The National Institute of Child Health and Human Development, Division of Research Grants, Bethesda, Maryland 20014*
V. *United States Army Research Office, Medical Research and Development Command, Army Surgeon Generals Office, Washington, D. C. 20315*
VI. *United States Army Research Laboratories, Natick, Massachusetts 01760*
VII. *United States Navy Contract Research Program of the Office of Naval Research, Department of the Navy, Washington, D. C. 20360*

It is not possible to sufficiently stress the importance of correctly identifying the appropriate agency for any proposal involving federal funds. Each governmental agency normally can provide an extensive manual containing instructions for the preparation of proposals involving funds under its jurisdiction. As a matter of economy, it is wise to correspond directly with any agency or agency division to which you plan to submit a proposal—*before undertaking the preparation of any proposal.*

It is sometimes difficult to know which government agency is the appropriate one to contact with reference to particular projects. In the list of agencies provided above, one can guess that the last three listed are interested primarily in physiological research (and thus are logical recipients for proposals involving physical fitness), while the first two listed offer support in a much wider variety of research and development areas.

Those who are developing and designing projects will be interested in *Education U.S.A.* and its weekly supplement, *Washington Monitor*. These are newsletters dealing largely with educational matters. They focus upon the government's role in education with prime emphasis upon the U.S. Office of Education. For information on subscriptions, write the National School Public Relations Association, National Education Association, 1201 16th Street N.W., Washington, D. C. 20036.

Of particular merit for those considering attempts to obtain federal support in the area of physical education is the column "About Federal Support," appearing regularly in *JOHPER*. In addition, *JOHPER* carried feature articles on federal support for physical education in the September 1955 and October 1966 issues. Each of these contained descriptions of support programs and addresses to which inquiries concerning further information should be directed.

Departments of physical education that are likely to have a continuing interest in the matter of federal support should investigate a special commercial service provided by Appleton Century Crofts (440 Park Avenue, New York City, 10016) called *The Guide to Federal Assistance for Education*, under the authorship of Robert E. Horn. This is a master file of information concerning every possible source of federal and state assistance for projects in education. It is completely cross indexed and is updated monthly under a special subscription plan. Although the initial cost is considerable, it is the kind of resource that can easily be considered as a joint departmental project or as a library resource.

Individuals or departments planning research projects in physical education should be aware of the Small Contract Grant program administered by the Bureau of Research of the U. S. Office of Education. Funds can be promptly obtained for suitable small scale projects, without the delay and cumbersome procedures involved in other kinds of proposals.

The following is adapted from a survey of federal subsidization of physical fitness research undertaken by H. Harrison Clark for The President's Council on Physical Fitness.

**Reasons for Grant Application Rejections**

Great care should be taken in preparing research proposals for submission to federal agencies for support, as proposals received are many and rejection rates are high. While any one agency may not represent them all, the experience of the National Institute of Health will illustrate the situation. During a single fiscal year, NIH receives 6,000 competitive applications for grants of funds to initiate or continue projects in medical and related biological research. Of this number, approximately 2,000 are disapproved. The causes of rejections for a sample of 605 disapproved applications were analyzed. Twenty-six shortcomings were listed; the following causes apply to 8% or more of the proposals:

| | | |
|---|---|---|
| 1. | Proposed test or methods or scientific procedures were unsuited to the stated objectives. | 34.7% |
| 2. | Problem is of insufficient importance or was unlikely to produce useful information. | 33.1% |
| 3. | Investigator did not have adequate experience or training, or both, for this research. | 32.6% |
| 4. | Description of the approach was too nebulous, diffuse, and lacking in clarity to permit adequate evaluation. | 28.8% |
| 5. | Overall design of the study had not been carefully thought out. | 14.7% |
| 6. | Investigator appeared to be unfamiliar with recent pertinent literature or methods, or both. | 13.7% |
| 7. | Investigator's previously published work in this field did not inspire confidence. | 12.6% |
| 8. | Requirements for equipment or personnel, or both, were unrealistic. | 10.1% |
| 9. | Proposed research was based upon a hypothesis that rested on insufficient evidence, was doubtful, or was unsound. | 8.9% |
| 10. | Problem was more complex than the investigator appeared to realize. | 8.1% |
| 11. | Statistical aspects of the approach had not been given sufficient consideration. | 8.1% |

Respectfully submitted,
**Lawrence Locke**
*Teachers College, Columbia University*

## Membership Committee

The Committee addressed itself to increasing membership in 1966 by 50 percent. Several communications were sent to members and prospective candidates in an attempt to increase the present NCPEAM membership. These included—

1. Copies of a letter stating the scope and functions of NCPEAM, sent to all current members, to be used with prospective candidates.
2. A tear-off form to be used by current members in recommending the admission of new members.
3. A standard form, provided for each candidate's formal application.

In addition, several members of the Committee addressed communications to the prospective candidates in their local areas. Bill Harkness left no stone unturned in contacting prospective members in Utah, Nevada, Arizona, New Mexico, and California. James Breen did likewise in the state of Louisiana, and Roger Wiley covered the state of Washington. It should be noted that a special attempt was directed toward recruiting members from junior colleges.

Dr. Matthews reported on December 7, 1966, that paid membership totaled 631. New members with dues applied to 1966 stand at 79, and new ones with dues applied to 1967 total 38. No doubt additional new members will have materialized by the time the present convention is terminated.

The task of securing and maintaining an adequate membership rests primarily upon the enthusiasm of each individual member of this organization. While the excellence of annual conventions and the subsequent *Proceedings* attract and hold a perennial membership, it falls primarily upon the individual efforts of the present membership to solicit new candidates for NCPEAM. The Committee wishes to thank each of you who have helped in this drive during 1966.

Two recommendations concerning changes in the Operating Code for the Membership Committee were presented.

1. George Cousins suggested that a student membership at a reduced rate be considered.
2. James Breen suggested that a regular committee be established to screen and select honorary members.

The Committee will be guided by whatever action this body deems appropriate.

Respectfully submitted,
**Rico N. Zenti**
*Chairman*

## Necrology Committee

During the summer, the roster of state contact representatives was revised to bring it up to date in as much as possible. On September 20, 1966, letters were mailed to each of the state and foreign country representatives requesting information about NCPEAM members who had died during the current year. On October 5, 1966, a letter was sent to each member of the Necrology Committee requesting that he contact each state representative in his assigned area.

At the time of this report, two deaths among the NCPEAM membership have been reported: Arthur S. Daniels, and Jesse Feiring Williams. Memorial statements have been prepared for these deceased members. Certificates honoring each of the deceased members will be completed, framed, and sent to the nearest of kin. The bill for the expense of framing the certificates will be submitted to the secretary-treasurer as soon as this work has been completed.

A request has been directed to all state representatives that in case a death occurs after December 1, 1966, the memorial statement will be sent to the chairman at the headquarters of the national convention.

The chairman wishes to take this opportunity to thank the members of the Necrology Committee for their aid and assistance during the year. Special thanks is expressed to H. Steven Brown who will take over the responsibilities of the chairman during the national convention. Gratitude is also due to Dave Matthews and to each of the state representatives for their aid and assistance in the location of information about deceased members.

Respectfully submitted,
**Loyd M. Barrow**
*Chairman*

# Jesse Feiring Williams (1886–1966)

Jesse Feiring Williams was born in Kenton, Ohio, in 1886 and died on August 5, 1966, at Carmel, California. He is survived by his widow, Gertrude, and two daughters, Grace and Margaret, and their families.

In 1909 Dr. Williams graduated from Oberlin College where he came under the influence of Delphine Hanna. Later he received a diploma from the Chatauqua School of Physical Education. He enrolled in the College of Physicians and Surgeons, Columbia University, where he earned the M.D. degree in 1915.

Dr. Williams was a physical education instructor for the blind in New York and professor of physical education at the University of Cincinnati; however, he spent practically his entire professional life at Teachers College, Columbia University. He was appointed associate professor there in 1919 and was promoted to a full professor in 1923. He became chairman of the Department of Health, Physical Education, and Recreation, in which capacity he served until 1941 when he retired as emeritus professor.

The value of the contributions which this great man made to education and physical education cannot be easily estimated, but it can be truthfully said that it has not been surpassed in our time. A few examples will indicate the scope. He was a prolific and provocative writer. During the years, he not only authored more than forty books but also numerous magazine and newspaper articles. One of the first books written, *The Principles of Physical Education*, is still a classic in its field and an all-time best seller. In 1935–36 he was a visiting Carnegie Professor to the universities of Latin America, and during the same year he was a United States delegate to the International Congress of Sports Medicine held in Berlin. He was also responsible for many health and physical education phases of educational surveys and evaluations conducted in schools and colleges. As a lecturer he had few equals. His sharp wit, intellectual insight, and deep understanding of multiple forces and factors merged into a challenging message for his audiences.

Dr. Williams was an active member of many professional organizations. His membership in the College Physical Education Association spanned the years from 1920 to the present. He served one year as president and later, after his retirement, he became an honorary member. He also served as president of the American Physical Education Association, 1930–32, and the Society of Directors of Physical Education in Colleges, 1935–36. He held membership in the American Public Health Association and others.

He served as a major in the Army Medical Corps during World War I. His responsibilities centered around Red Cross recreation activities in service hospitals in the Atlantic Division.

Honors were bestowed upon Dr. Williams in large numbers. Both Oberlin and Rollins colleges conferred honorary degrees upon him. He was awarded the coveted Gulick Medal by the American Physical Education Association in 1939. Colleagues honored him by entrusting him with offices of responsibility and authority in many professional organizations.

It can be accurately stated that the nature and scope of physical education programs in schools and colleges during the first half of the 20th century have been decisively influenced by the ideas and ideals of Jesse F. Williams. He emphasized the relationship between physical education and culture and that the aim of physical education was to develop man as a total and unified organism. With a mixture of Rousseau's educational naturalism and Dewey's pragmatism, he interpreted physical education in terms of both physical and social developments. In this manner, along with other scholars of his time, he helped to break away from the formalism of the European systems and to initiate the "New Physical Education." Through his teaching, writing, and lecturing he was instrumental in influencing others to believe in and to adopt programs which included natural activities such as dance, games, and sports. His beliefs still dominate the profession in many respects. The excellence of his scholarship was unmatched. It is not likely that another sage of his caliber will be present among us during the latter half of this century or for many years to come.

## Arthur S. Daniels (1905–1966)

Arthur S. Daniels was the son of Anthony Joseph and Anna D. Daniels. He was born in New York City, December 21, 1905, and died in Indianapolis, Indiana, on June 18, 1966, at the age of sixty years and six months.

He received his public school education in New York City, the B.S. degree from Springfield College in 1931, the M.A. degree from Columbia University in 1935, and the Ed.D. degree from Columbia University in 1943.

From 1931 to 1937 he was assistant professor at Allegheny College where he was coach of football, swimming, and track and director of intramural sports. From 1937 to 1945, except for sabbatical and military leave during 1941–45, he was associate professor of physical education at the University of Illinois, where he was a member of the university graduate faculty and was assistant varsity football coach. During the summers of 1936 to 1941, he taught at Teachers College, Columbia University.

From 1942 to 1945 he served in the United States Air Force where he was assistant chief of physical training for the Technical Training Command, chief of physical training and project officer for establishment of Air Force convalescent hospitals in the Personnel Distribution Command. He was separated from the Air Force in August 1945 with the rank of lieutenant colonel.

From 1945 to 1957 he was professor of physical education at Ohio State University where he was supervisor of the adapted physical education program; a member of the graduate school faculty, the Policies and Standards Committee, and the Graduate School Council; and advisor to Ph.D. candidates. He joined the Indiana University faculty in 1957 as dean of the School of Health, Physical Education, and Recreation, where he devoted his efforts to the continued growth of on-going programs, the development of a philosophical and scientific body of knowledge, and the pursuit of excellence in the profession.

His professional services and accomplishments are too many to review in detail, but the following are worthy of special note. He was—

A member of the American Association for Health, Physical Education, and Recreation, president in 1961–62, member of numerous important committees and boards, faithful worker, and recipient of the National Honor Award in 1957.

A member of the National College Physical Education Association and president in 1957–58.

A Fellow of the American Academy of Physical Education, from which he received the Citation for Outstanding Work in Adapted Physical Education in 1948.

A member of the National Advisory Board for the Athletic Institute.

A member of the President's Advisory Committee on the Fitness of American Youth.

He provided outstanding leadership through his numerous articles and papers dealing with such aspects of the profession as sports sociology and scientific foundations for physical education and through his book, *Adapted Physical Education*.

He was active on the international level, and his interest and achievements were recognized in his appointment by the United States Department of State, as a part of the State Department's American Specialist Program, to study physical education in the Hong Kong schools in the spring of 1965. He was a member of the Research Committee of the International Council for Sport and Physical Education, in the interest of which he attended the International Meeting in Cologne in April 1966.

His sincere devotion to his profession stands out as probably his most salient characteristic. He was held in high regard by his professional associates, from students to highest university officials. In a very real sense he gave his life to the cause of physical education and the school of which he was dean.

In this relationship the words of Bradford Smith, in his book *Dear Gift of Life, A Man's Encounter With Death*, have a very significant meaning:

> Suddenly one senses that his life is not just his own little individual existence, but that he is bound in fact to all of life, from the first splitting off of the planets, through the beginning of animate life and on through the slow evolution of man. It is all in him and he is but one channel of it. What has flowed through him, flows on, through children, through works accomplished, through services rendered, it is not lost.

The life of Arthur S. Daniels is bound to all life, and it flows on through each of us, and through us to generations as yet unborn.

## Operating Code Committee[1]

1. Align Roman numerals, page 1, Table of Contents (line up the periods correctly for manuscript work).
2. Align Constitution, second line, Table of Contents.
3. Add paragraph B, C, etc. or omit the "A" paragraph entirely under Part VIII, middle of page 1, Table of Contents.
4. Move entire organization chart to the left (down?) considerably in order to balance the page (page 2).
5. Page 3, delete the personal pronoun "our," line 2, and substitute "the."
6. Align "the," left margin, last line, 2nd paragraph, page 3.
7. Change line 2, 3, and 4, paragraph d, page 3, as follows:
   ". . . an increasing number of able young people who are interested in the natural and social sciences, the humanities, and . . ."
8. Page 3, last line, change "developing" to "the development of."
9. Page 4, change last half, first paragraph to:
   ". . . the task of conducting a year-round program designed to implement the execution of this resolution and to discover and report specific instances in which progress has been made with respect to its execution."
10. Page 4, paragraph 3a, change to read as follows:
    "support the position that the practice of substituting band or ROTC for the physical education basic instruction program must be vigorously opposed."
11. Page 5, line 4, omit "present."

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[1] The following suggested revisions in the Operating Code of the NCPEAM were approved and accepted at a business meeting of the Association at the San Diego Convention.

12. Page 5, paragraph 2b, first line, change to:
    ". . . so as to insure maximal attendance . . ."
    or
    ". . . so as to encourage maximal attendance . . ."
13. Page 5, paragraph 2c, change to:
    ". . . consider site locations for the annual convention . . ."
14. Page 5, paragraph 2d, change "present" in the last line to "current."
15. Page 5, paragraph 2e, change first line to:
    ". . . limit the length of the official convention to three days."
16. Page 5, paragraph 2e, second line, change "but groups shall not" to "but group meetings shall not."
17. Page 7, paragraph 7a, second line, change "colleges" to "institutions of higher learning."
18. Page 13, paragraph 1, line 2, change ". . . use the one year as an . . ." to ". . . use the one year in which he serves as an . . ."
19. Page 20, under paragraph 4a, add:
    "Inasmuch as the chairman-elect has been charged with the responsibility of formulating the program and obtaining speakers and demonstrators, it is recommended that the chairman deputize the chairman-elect to assume the responsibility of introducing the speakers and conducting the meeting immediately following his introduction by the chairman."
20. Page 35 under paragraph 2d, line 2, change ". . . appoint a successor to complete . . ." to ". . . appoint a successor, who does not necessarily have to be a past president, to complete . . ."
21. Page 36, paragraph 1, second line, correct the typographical error, ". . . one page if prepared . . ." to ". . . one page is prepared . . ."
22. Page 37, paragraph h. As worded the intent is not clear. Shall one copy of the Operating Manual be shared by all? Or shall each person receive a copy? Since the Operating Codes Committee would not be apt to have a supply of the Operating Manuals, perhaps it would be better to place this responsibility in the hands of the secretary-treasurer. This paragraph (after clarification) then could be made paragraph G-26 on page 52.
23. Page 52, paragraph 22, second line, change "honoria" to "honoraria."
24. Page 56, paragraph 11, change, ". . . exploitation of . . ." to ". . . exploitation by . . ."

Respectfully submitted,
**Robert Korsgaard**
*Chairman*

## Policies Committee

As a result of the mail canvas of the membership, a number of recommendations were presented that were not included in the proposed revisions. They are included here as a matter of information.

It was recommended that the Association—

1. Take stronger continuing actions to implement existing policies.
2. Adopt a policy and action speaking out strongly against those practices in intercollegiate athletics in which the Association does not believe.

3. Adopt a policy supporting improved quality and depth of student teaching experiences in the teacher preparation programs.
4. Review the desirability of publishing the Annual Proceedings through the American Association for Health, Physical Education, and Recreation.
5. Adopt a policy whereby the Association would meet the expenses of the president during his tenure of office. (Considerable opposition was expressed against the president's dependency on his own institution for financial support.)
6. Adopt a policy opposing the use of teaching assistants and associates in lieu of regularly qualified personnel.

## *POLICIES*

## *PROPOSED REVISIONS, DECEMBER 1966*[1]

All current policies formally adopted by the Association to govern its affairs are included *in this section*. For the purposes of *the* Association, a policy may be defined as *an agreed* course of action to be followed in conducting the affairs of the organization.

In many cases, the provisions of the Constitution and By-Laws of the Association are not definitive. These provisions are implemented into action through the medium of policies and procedures. These policies and procedures tend to give continuity and uniformity to Association activities over a considerable period of time, irrespective of the changes that occur continuously among its officers and members. It is also through the medium of policies and procedures that the Association gears itself to the fluctuations of the times. (1954, *57th Proceedings*, p. 222.)

### Achieving Association Purposes

1. Association Objectives

The Association shall:

a. Use every medium of influence to improve present programs of *physical education* in the schools at all levels to the end that *the* boys and girls *and all citizens* of the nation have adequate opportunity to develop desirable attitudes, knowledge, and skills in physical education. (1950, *53rd Proceedings*, p. 128.)

b. Support all efforts *aimed at* establishing desirable athletic practices at each educational level to the end that physical education can make its maximum contribution to the welfare of the participant. (1954, *57th Proceedings*, p. 209.)

c. Engage in activities looking toward the promotion of research designed to improve the quality and scope of programs of health education, physical education, and recreation through (a) research activities of Association committees; (b) Association endorsed studies by selected graduate students in colleges and universities; (c) collaboration with other organizations conducting meetings and in the publications of the Association; and (d) serving as a clearing house for research in college health education, physical education, and recreation. (1954, *57th Proceedings*, p. 223.)

d. Commit itself and its membership to a policy of aggressively seeking to recruit into physical education an increasing number of *qualified* young people *who are* interested in the *behavioral* sciences, in the humanities, and in communication skills. *Further that* such young people *should* be permitted modification of their undergraduate curricula and be guided into graduate programs adapted to developing their special skills in the interests of research, philosophy, and interpretation related to physical education. The *National* College Physical Education Association *for Men shall* assign to a standing committee or to a special committee the task of conducting a year-round program designed to implement this resolution and to discover and report specific instances in which progress has been made with respect to its execution. (1959, *63rd Proceedings*, p. 181.)

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[1] The italicized changes on the policies of the NCPEAM were approved by the Executive Council at the San Diego Convention.

2. Coordinating with Other Agencies

   The Association shall:

   a. Cooperate with other education agencies to improve professional preparation programs in health, physical education and recreation. (1951, *54th Proceedings*, p. 155.)
   b. Cooperate with other educational agencies in promoting the objectives of health education, physical education, and recreation. (1952, *55th Proceedings*, p. 150.)
   c. Call upon all school and college administrations to secure properly qualified professional personnel to teach, coach and administer physical education and athletic programs. (1952, *55th Proceedings*, p. 149.)
   d. Cooperate with other educational organizations in sponsoring and/or having official representation at conferences in the fields of health education, physical education, and recreation. (1954, *57th Proceedings*, p. 238.)
   e. Coordinate whenever possible the work of committees and projects with similar committees from other professional organizations. (1954, *57th Proceedings*, p. 196.)
   f. Cooperate with other professional societies in the formulation of education standards and in recommending them to colleges and universities for the development and control of programs of health education, physical education and recreation. (1954, *57th Proceedings*, p. 223.)

3. Basic Instruction Program

   The Association shall:

   a. Support the position that the practice of substituting band or ROTC for the physical education basic instruction program must be vigorously opposed. (1950, *53rd Proceedings*, p. 150.)
   b. Encourage colleges and universities throughout the country to abolish the practice of granting physical education credit for military service. (1951, *54th Proceedings*, p. 153.)
   c. *Encourage colleges and universities to include in the basic instruction program a depth of emphasis on the body of scientific knowledge on the relationship of exercise to the biological development of the human organism and on movement as a medium in the educational process for total development of the individual.*

## Administering Association Affairs

1. Membership

   The Association shall:

   a. Seek to retain new members to better acquainting them with the traditions and purposes of the organization, and seek ways for them to participate actively in the affairs of the Association.
   b. *Endeavor to maintain liason with Emeritus members by utilizing their experience and zeal through participating in assignments to Association affairs and programs.*

2. Annual Meeting

   The Association shall:

   a. Have as the primary purpose of the regular meetings of the Association to provide the largest number of members with opportunities to discuss the major areas of the college program of health education, physical education and recreation. These meetings shall be planned so as to include wide participation among members. (1954, *57th Proceedings*, p. 223.)

b. Select the dates and location of the annual meeting so as to encourage maximal attendance by the members of the Association. To equalize, over a period of years, the distance traveled to meetings of the Association residing in the various sections of the country, the principle of periodic rotation among cities shall be given consideration in the selection of the site for the annual convention. (1954, 57th *Proceedings*, pp. 223, 224.)

c. Consider site locations for the annual convention that place no restriction on Association members with reference to housing, attendance at meetings, or other factors tending to divide the membership. (1956, 59th *Proceedings*, p. 382.)

d. *(It is recommended that this section be deleted.)*
Select conference sites for the most part, in areas with the heaviest concentration of members. "Local color" or wide attractions should not necessarily be a determining factor. On occasion, the convention site should be utilized as a "foil" to attract new members. The primary consideration, however, is to serve the current membership. (1958, 61st *Proceedings*, p. 31.)

e. Limit the length of the official convention to three days. This does not prevent any group from meeting before the convention, but group meetings shall not be included in the official program, nor shall any papers or summaries of pre-convention meetings be a part of the *Proceedings*. (1955, 58th *Proceedings*, p. 247).

f. Require papers submitted for presentation to be limited to the basic essentials of the topic. In no case shall papers exceed 2000 words, including committee reports. The editor shall have authority to make deletions or changes necessary to conform to this policy. (1955, 58th *Proceedings*, p. 24.)

g. Require that only abstracts of prepared papers be presented at annual meetings, thus allowing more time for discussion. (1954, 57th *Proceedings*, p. 16.)

h. Take no official action to assist special interest groups in scheduling informal meetings. (1959, 63rd *Proceedings*, p. 165.)

3. Committees

The Association shall:

a. Require each committee to submit its operating code to the Operating Code Committee, who will in turn request that the Constitution Committee check each code to see that it is in keeping with the constitution. (1954, 57th *Proceedings*, p. 221.)

b. Rotate committee membership in order to involve as many members as possible. (1955, 58th *Proceedings*, p. 218.)

c. *Strive to seek committee representatives from institutions in all areas of the nation.*

d. Provide a fund for use by the President in executing his duties. Normally all of his expenses shall be borne by his institution, therefore, this fund is to serve only as an emergency fund. (1955, 58th *Proceedings*, p. 245.)

4. Publications

The Association shall:

a. Disseminate deliberations of the official meetings through the published proceedings and through reports covering such special projects as may be authorized by the Association. (1954, 57th *Proceedings*, p. 233.)

b. Cooperate with the AAHPER for publication of the annual *Proceedings*. (1957, 60th *Proceedings*, p. 358.)

c. Carefully edit all publications of the Association to make certain that they represent a high quality of scholarship and follow approved methods of conducting and reporting educational research. (1954, 57th *Proceedings*, p. 223.)

d. Not accept advertising or other extraneous material for publication in the literature of the Association. (1954, *57th Proceedings*, p. 223.)

e. *Collaborate with the National Association for Physical Education of College Women in the publication of Quest.*

5. Projects

The Association shall:

a. *Endorse only those studies which benefit the profession and the Association.* (1951, *54th Proceedings*, p. 160).

b. *(Recommended that this section be deleted. It conflicts with Section 5d.)*
Not sponsor studies, but only approve them. (1951, *54th Proceedings*, p. 164.)

c. Place in the hands of the appropriate committee requests by students seeking endorsement of the Association for doctoral studies. Procedures to implement this policy will be included in the operating code of the committee. (1952, *55th Proceedings*, p. 146).

d. Sponsor and conduct projects as approved by the Association. Such projects should involve little or no expense. They must be of a nature that their business can be readily transacted by mail, and they should have some beginning and ending. (1954, *57th Proceedings*, p. 207).

6. Historical Records

The Association shall:

a. House *National College Physical Education Association for Men* historical documents in a designated college library. (1954, *57th Proceedings*, p. 238).

b. Annually give two copies of the *Proceedings* to the library designated by the Association to house its historical materials. (1957, *60th Proceedings*, p. 331).

c. Preserve its historical records by duplicating the original copies. Duplicate copies can then be distributed upon request from the library designated by the Association to house its documents. (1958, *61st Proceedings*, p. 299).

7. Delimitation of Function

The Association shall:

a. Not serve as an accrediting agency to evaluate specific programs of health education, physical education or recreation in individual institutions of higher education. (1954, *57th Proceedings*, p. 224).

b. Not participate in activities concerning the relationship of a particular college to its employees in such matters as employment, promotion, tenure, dismissal or academic freedom. (1954, *57th Proceedings*, p. 224).

8. Maintenance of the Policy Statements

The Association shall:

a. Assign the Secretary-Treasurer to be responsible for maintenance of the policy book. He shall make its contents, or parts thereof, available to officers and members whenever the need arises. (1954, *57th Proceedings*, p. 223).

b. Direct the Secretary-Treasurer to include new policies in the policy book or to revise or delete those previously established as approved at a regularly scheduled business meeting at the annual convention. Action on policies may be taken at any regular business meeting of the Association without the necessity of prior notice. (1954, *57th Proceedings*, p. 223.)

Respectfully submitted,
**Vernon Sprague**
*Chairman*

# Public Relations Committee

## Activities for the Year

The present Operating Code of the Public Relations Committee of the NCPEAM was not deemed in need of any necessary revisions or amendments; thus no recommended changes were presented to the chairman of the Operating Code Committee for action by the Executive Committee.

Because the Public Relations Committee for 1965 believed that the great number of new junior colleges were not aware of the NCPEAM and its activities, the Committee decided to pursue one of the recommendations made by the Committee last year relative to the contacting of physical educators in many junior colleges.

Letters were written to the person in charge of physical education in each of 250 junior colleges. The purpose of the letter was to (1) point out the existence of the NCPEAM, (2) emphasize the importance of NCPEAM as a professional organization, (3) point out the areas pursued by the NCPEAM for the advancement of physical education, (4) stress the high quality of the annual meetings along with the material included in the *Proceedings*, and (5) encourage the possibility of membership of those physical educators with high professional qualifications.

In addition a similar type of letter was sent to the chairmen of physical education departments in over 200 senior colleges and universities.

## Recommendations

It is recommended that (1) the project for this year be continued by the committee next year, (2) that the committee prepare an informational type brochure or pamphlet about the NCPEAM and (3) that present members of the NCPEAM be urged to seek out high quality professional physical educators for membership in the NCPEAM.

Respectfully submitted,
**James E. Odenkirk**
*Chairman*

# Resolutions Committee

Whereas, This has been a most successful meeting, and

Whereas, Provision for transportation, boarding, housing, and recreation of the members of the Association was effectively planned and carried out; therefore be it

Resolved, That the members of the NCPEAM extend their sincere appreciation and thanks to—

The management and employees of the El Cortez Hotel, San Diego, California
The convention manager, Carl Benton, his committee
The faculty and administrative officers of San Diego State College
The program chairman, section officers, program participants of the Association, and
All others who cooperated to make this meeting a success.

**Kooman Boycheff**
**Spurgeon Cherry**
**Charles Kovacic**

# Committee on Utilization of Television in Physical Education

For the first time in recent years this Association has not had a committee on television. In deference to the recommendation at Philadelphia that our committee be dissolved since the AAHPER committee seemed to be duplicating its work, President Richard Donnelly requested the privilege of appointing an official representative of NCPEAM to the AAHPER Committee on Utilization of Television in Physical Education. This was allowed, and he asked me to serve in this capacity—which I have done in addition to being the chairman.

The Committee is a subcommittee of a parent Committee on the Improvement of Instruction of the Physical Education Division of AAHPER. The members of the parent committee are the chairmen of subcommittees on Television, Programed Learning, etc. There is some dissatisfaction here, since Television and Programed Learning involve other areas of the AAHPER, e.g., health Instruction, teaching aids, and the like. Changes in location and function of the television group may be recommended in the near future to facilitate coordination of effort and dissemination of information.

The NCPEAM is well represented on the Committee. In this way the needs and points of view of college physical education are continually involved in the considerations of the committee. It has been a productive group during the year, as indicated by the projects in which it has been involved:

1. A "viewing center" was operated at the 1966 Convention of AAHPER in Chicago. Segments of sample recorded television materials in health and physical education were presented.
2. A small group of the Committee met at Purdue University to work with the Midwest Program on Airborne Television to develop a proposal for funds to produce and televise an elementary school physical education course of 40 lessons: 32 for students and 8 for the teachers in viewing schools. The proposal is being considered by the U.S. Office of Education at this time.
3. The National Center for School and College Television, Bloomington, Indiana, supported two assessment conferences on Television for Health and Physical Education during the year. Members of our Committee helped to plan and conduct the conferences, and, your representative is involved in writing the report which will be available in the early part of 1967.
4. This Committee had developed the most complete list available of innovations in the use of television in physical education. A limited number of copies of this will be available early in 1967.
5. The Committee has compiled a sizable bibliography of materials on television in physical education. This information will be mimeographed or published in some way to be available in limited quantities in the early part of 1967.
6. The Committee is now planning projects for the future:
   a. Continued collection and dissemination of information on television in physical education.
   b. Encouragment, support, and participation in the development of a college health education course for television by representatives of colleges and universities in the Midwest. This project grew out of the assessment conferences and is being supported by the National Center for School and College Television.
   c. Support and participation in a longitudinal project to develop five courses in elementary school physical education. This project is being supported by the National Center for School and College Television and the Educational Television Association of Metropolitan Cleveland. It also emerged from the assessment conferences of 1966.
   d. The provision of a Television Viewing Center at the AAHPER Convention in 1968.
   e. The development and publication of a set of guidelines for the utilization of television in teaching physical education.

This Committee needs the support and cooperation of the members of NCPEAM. You are urged to encourage research and development in the utilization of television in physical education at every opportunity. Your representative recommends the continuation of the present arrangement for the coming year; no special committee seems to be indicated for NCPEAM at this time.

Respectfully submitted,
**Chalmer Hixson**
*NCPEAM Representative*

## Committee on Conference Time and Site

Following a series of written communications and telephone conversations with each of the Committee members, it is recommended that the 1968 meetings be held in Durham, North Carolina. If the present established order of dates is followed, this convention would fall during the last week of December. The exact dates should be determined in consultation with the Executive Council.

The rationale for recommending Durham is as follows:

1. The NCPEAM has never held a meeting in the Central Southeast. Meetings have been held in Washington, D.C., and Florida, but no site between these two areas has ever been selected.
2. The location of Duke University in Durham provides excellent possibilities for local assistance in convention planning.
3. Hotel accomodations meet all association criteria and there is every evidence of complete cooperation from hotel personnel.
4. Transportation facilities and routes to Durham are satisfactory.

It is the considered judgment of this committee that Durham, North Carolina, represents a site which fits the rotation plan established and is suited to the purposes of the Association and its membership.

Respectfully submitted,
**Richard C. Havel**
*Chairman*

## Construction and Equipment Committee

The Construction and Equipment Committee was reactivated in 1964, and in the 1965 report of the Committee, two recommendations were made. The first of these suggested the possibility of standardizing methods of reproducing architectural drawings and building plans which could be kept on file in some central location. The second recommendation related to the publication of a brochure containing drawings and reproductions which could be made available to members of the profession.

Obviously, both of these recommendations would involve considerable time on the part of the Committee and the availability of funds for publications of any materials that were produced. It was recommended that the Association look for outside sources in order to procure the funds necessary for the implementation of such a project. Some investigations were started along this line when it was learned that the Athletic Institute and the American Association for Health, Physical Education, and Recreation had agreed to collaborate on a workshop to produce a publication dealing with facilities and equipment in the college field. This workshop is scheduled to be held on the campus of Indiana University, April 29, to May 7, 1967, under the chairmanship of Harold Jack of Temple University. Some members of the Committee have been asked to participate in this workshop, which should result in the publication of materials far more complete and comprehensive than could have been developed by our Association with the limited funds at our disposal.

The Committee should like to recommend that our Association cooperate with the Athletic Institute and AAHPER workshop in the production of materials that should provide all of us with valuable assistance in the construction and equipment field.

Respectfully submitted,
**Lloyd Messersmith**
*Chairman*

# Committee on Physical Education and Athletics for AAHPER, NCAA, NCPEAM

The Joint Committee on Physical Education and Athletics met in Washington, D.C., on January 10, 1966, during the NCAA Annual Convention.

Committee members in attendance were as follows:

Keith Bowen (67) (NCPEAM)—Eastern Michigan University, Ypsilanti, Michigan
Robert Bronzan (67) (AAHPER)—San Jose State College, San Jose, California
David Busey (66) (NCAA)—Lycoming College, Williamsport, Pennsylvania
Ray O. Duncan (66) (AAHPER)—West Virginia University, Morgantown, West Virginia
Stuart Holcomb (68) (NCAA)—Northwestern University, Evanston, Illinois
James Long, chairman (AAHPER)—University of New Hampshire, Durham, New Hampshire
Norris Patterson (68) (NCPEAM)—William Jewell College, Liberty, Missouri
Thomas McDonough (67) (NCAA)—Emory University, Atlanta, Georgia
Roswell D. Merrick, secretary-treasurer (AAHPER)—Washington, D.C.
Robert J. Weber (68) (AAHPER)—State University College at Cortland, N.Y.
M.R. Clausen (66) (NCPEAM)—University of Arizona, Tucson, Arizona. (Attended meeting briefly, had another meeting at same time.)

Visitor:

Walter Schwank (AAHPER)—University of Montana, Missoula, Montana

The financial report as given by Ross Merrick, secretary-treasurer of the Joint Committee, is as follows for 1965–66:

| | |
|---|---|
| Total income | $2,857.70 |
| Total expenditures | 2,134.73 |
| Balance on hand, January 1966 | $ 722.97 |

Tom McDonough of Emory University gave a report about the updating of the historical files of the Joint Committee, including a brief outline of the projects carried out since 1945. It was recommended that the senior member from each of the sponsoring organizations be responsible for reporting the minutes of the Joint Committee to his respective association. It was decided that AAHPER would serve as a repository for the historical files and records of the Committee.

Stuart Holcomb was unanimously elected as chairman of the Joint Committee for a two-year term. (Mr. Holcomb is leaving Northwestern University on December 1, 1966. M. R. Clausen has been appointed by the NCAA Council to serve out this term.)

Lysle Butler of Oberlin College, secretary-treasurer of the National Association of Collegiate Directors of Athletics and a former member of the Joint Committee, gave a brief progress report on the NACDA, which was sponsored by the Joint Committee. Two hundred and six member instutions have joined. The first NACDA Annual Meeting was held at the Pick-Congress Hotel in Chicago on June 23–25.

Future projects and miscellaneous items were generally discussed; among them were the following:

1. The need was mentioned for a study of the new academic structures (i.e., quarter system, trimester, etc.) and how they will effect the NCAA rule making.

2. It was also suggested that the Joint Committee consider the problem of schools losing their required physical education programs.
3. The Committee proposed a project on the division (or split) between physical education and athletics.
4. Another proposed project is the development of closer liaison between the NAIA and the NCAA.

It was the consensus of the Joint Committee members that next year's meeting would be held at the same corresponding time and is scheduled for Houston, Texas, on Monday, January 9, 9:30 a.m.–12 noon in the Massanet Room of the Sheraton-Lincoln Hotel. Items for the agenda are now being assembled.

Respectfully submitted,
**M. R. Clausen,**
*Chairman*

# Honorary Members
## 1967

Alderson, C. J., Ed.D. (1950, 1959)
University of Texas
Austin, Texas

Altmann, George J., M.Ed. (1935, 1955)
202 Belmont
Los Gatos, California

Barr, J. Shober, M.A. (1954, 1965)
Franklin and Marshall College
Lancaster, Pennsylvania

Bartlett, Fay C., B.S. (1940, 1955)
222 Warren Square
Bethlehem, Pennsylvania

Bilheimer, C. E., M.Ed. (1930, 1954)
Gettysburg College
Gettysburg, Pennsylvania

(1) Bookwalter, Karl W., Ed.D. (1937, 1966)
Indiana University
Bloomington, Indiana

Brace, David K., Ph.D. (1925, 1964)
2205 N. Lamar Blvd.
Austin, Texas

Brown, Hubert E., Ph.D. (1947, 1958)
8239 Via Alhambra
Laguna Hills, California

Brownell, Clifford L., PH.D. (1929, 1961)
25 Woodford Road
Avon, Connecticut

Bullock, James E., M.A. (1935, 1960)
Williams College
Williamstown, Massachusetts

Clapp, Raymond G., Ph.D. (1906, 1945)
526 Howes St.
Ft. Collins, Colorado

(1) Cornwell, Oliver K., Ed.D. (1931, 1966)
7 Flemington Road
Chapel Hill, North Carolina

*Attended 1967 Convention

(1) Past President

(2) Past Secretary-Treasurer

Evans, Harold M., B.P.E. (1941, 1960)
25 Prospect St.
Falmouth, Massachusetts

Fetzer, Robert A., M.A. (1924, 1952)
University of North Carolina
Chapel Hill, North Carolina

Galligan, Glen E., Ed.D. (1947, 1964)
Rt. 1, Box 157 C
Friday Harbor, Washington

Hansen, Canute, D.D.S. (1926, 1955)
181 Maple Avenue
Rockville Center, New York

Hanson, Ray, M.Ed. (1958, 1964)
1351 Parkview Drive
Macomb, Illinois

Harmon, John M., Ed.D. (1934, 1959)
610 S. Elm
Ottawa, Kansas

House, Howard H., Ph.D. (1932, 1955)
Box 203
Asotin, Washington

Ilowit, Roy, Ed.D. (1956, 1964)
Northern Blvd. at Brookville, P.O.
Greenvale, New York

(1) Jackson, Chester O., Ed.D. (1948, 1966)
University of Illinois
Champaign, Illinois

Jenkins, Sidney, M.A. (1950, 1958)
Box 535
Granville, Ohio

Jones, John Oliver, M.S. (1948, 1965)
Summit Park
Park City, Utah

(1) Keller, Louis F., Ph.D. (1922, 1959)
1340 Keston St.
St. Paul 8, Minnesota

Kiphuth, Robert J. H., M.P.E. (1931, 1959)
Yale University
New Haven, Connecticut

Knox, Walter S., Ph.D. (1959, 1965)
Rt. 1, Box 365A
Jacksonville, Texas

Langston, Clair Van Norman, Ed.D. (1939, 1965)
Oregon State University
Corvallis, Oregon

Lavik, Rudolph H., M.A. (1952, 1963)
1185 Maple Avenue
Tempe, Arizona

Lawther, John D., M.A. (1951, 1964)
Pennsylvania State University
University Park, Pennsylvania

(1) Livingston, Walter J., B.S. (1922, 1952)
333 12th Avenue
Indian Rocks Beach, Florida

(1) Luehring, Fred W., Ph.D. (1919, 1951)
314 N. Chester Road
Swarthmore, Pennsylvania

(1) Marsh, Allison W., M. Ed. (1921, 1958)
62 Hillcrest Place
Amherst, Massachusetts

Martin, J. Frederick, M.A. (1924, 1963)
Wesleyan University
Middletown, Connecticut

Masley, A. L., M.A. (1945, 1960)
University of Wisconsin
Madison, Wisconsin

(1) (2) Metcalf, Thomas N., M.A. (1919, 1956)
1208 San Miguel
Santa Barbara, California

(1) Mitchell, Elmer D., Ph.D. (1930, 1958)
University of Michigan
Ann Arbor, Michigan

Moll, Conrad S., M.S. (1958, 1966)
Box 187
Mesilla Park, New Mexico

(1) Nichols, John H., M.D. (1918, 1955)
Oberlin College
Oberlin, Ohio

Olds, Lloyd W., Ph.D. (1932, 1965)
Eastern Michigan University
Ypsilanti, Michigan

Olson, Carl, B.S. (1933, 1959)
515 Glasgow Road
Pittsburgh, Pennsylvania

Oosting, Ray, M.Ed. (1927, 1965)
Trinity College
Hartford 6, Connecticut

Raabe, Howard W., M.S. (1949, 1957)
1148 S.E. Powell Blvd.
Portland, Oregon

Rider, George L., B.A. (1921, 1960)
216 W. Church St.
Oxford, Ohio

Rockafeller, Harry J., B.S. (1932, 1961)
10 Landing Lane, Apt. 9-D
New Brunswick, New Jersey

Sampson, Harry W., B.S. (1960, 1965)
11 Downing Road
Hanover, New Hampshire

(1) (2) Scott, Harry A., Ph.D. (1922, 1959)
3217 Golden Rain Road, Apt. #8
Walnut Creek, California

Settle, Caskey, Ed.D. (1935, 1964)
New Mexico Highlands University
Los Vegas, New Mexico

Stafford, George T., Ed.D. (1939, 1965)
University of Illinois
Urbana, Illinois

(1) Staley, Seward C., Ph.D. (1926, 1961)
University of Illinois
Urbana, Illinois

Steinhaus, Arthur H, Ph.D. (1930, 1964)
Michigan State University
East Lansing, Michigan

Strehle, Robert L., M.A. (1958, 1960)
1019 Dartmouth Avenue
Claremont, California

Swain, Leslie E., M.A. (1927, 1943)
Apt. 401, 830 N. Shore Drive
St. Petersburg, Florida

Toomey, Irving F., B.S. (1936, 1957)
University of California
Davis, California

Wallace, Stanley M., B.S. (1931, 1959)
University of Maine
Orono, Maine

Whitaker, Berry M., B.A. (1948, 1959)
University of Texas
Austin, Texas

Winters, Arthur R., M.A. (1926, 1966)
321 Porter Street
Easton, Pennsylvania

# Active Members[1]
## 1967

*Attended 1967 Convention

(1) Past President

(2) Past Secretary-Treasurer

### A

Adams, John R., M.S. (1964)
Eastern Michigan University
Ypsilanti, Michigan

*Adams, William, Ph.D. (1964)
University of California
Davis, California

*Adee, Don, Ph.D. (1947)
Chico State College
Chico, California

Adler, Jack D., M.S. (1964)
65 Rio Glen Drive
Eugene, Oregon

*Alley, Louis E., Ph.D. (1954)
State University of Iowa
Iowa City, Iowa

Amile, Dominick D., B.S. (1962)
Long Island University
Greenvale, New York

Anderson, Ernest W., M.Ed. (1956)
Augsburg College
Minneapolis, Minnesota

Anderson, Eugene W., M.S. (1961)
Chico State College
Chico, California

Anderson, Jack C., M.A. (1967)
R. R. # 1, 48th Avenue
Cooperstown, Michigan

Anderson, Jackson M., Ph.D. (1948)
University of Minnesota
Minneapolis, Minnesota

Anderson, William G., Ed.D. (1964)
Teachers College, Columbia University
New York 27, New York

---

[1] Through April 21, 1967.

Andrews, Sidney H., M.A. (1965)
Box 140
Boone, North Carolina

Antonacci, Robert J., Ed.D. (1949)
Temple University
Philadelphia, Pennsylvania

Appleton, Lloyd O., M.A. (1947)
U.S. Military Academy
West Point, New York

Arbaugh, Gregg, M.A. (1961)
Adrian College
Adrian, Michigan

Asprey, Gene M., Ph.D. (1960)
State University of Iowa
Iowa City, Iowa

Atterbom, Hemming A. A., M.S. (1967)
University of Oregon
Eugene, Oregon

## B

*Bailey, Don C., M.A. (1965)
North Texas State University
Denton, Texas

*Baker, John A., Ed.S. (1966)
Arizona State University
Tempe, Arizona

Baley, James A., Ph.D. (1954)
University of Connecticut
Storrs, Connecticut

Ballou, Ralph B., Jr., Ph.D. (1961)
Belmont College
Nashville, Tennessee

Banaszewski, William A., Jr., Ed.D. (1966)
State University of New York
Buffalo, New York

Barlow, Thomas E., B.A. (1953)
University of Texas
Austin, Texas

Barr, Alfred R., M.A. (1948)
Southern Methodist University
Dallas, Texas

Barrow, Harold M., Ed.D. (1949)
Box 7234
Winston-Salem, North Carolina

Barrow, Loyd M., Ed.D. (1957)
Southern Connecticut State College
New Haven 15, Connecticut

*Bartelma, David C., Ed.D. (1948)
University of Colorado
Boulder, Colorado

Battinelli, Thomas, CAGS (1964)
State College
Fitchburg, Massachusetts

Bauer, Emory G., M.A. (1956)
Valparaiso University
Valparaiso, Indiana

Bautz, Conrad A., M.S. (1966)
Brooklyn College
Brooklyn, New York

Bearden, Frank W., Ed.D. (1952)
Rice University
Houston, Texas

Beatty, Harold J., M.A. (1957)
Fresno State College
Fresno, California

Beck, Robert J., Ed.M. (1960)
University of Illinois Circle Campus
Chicago, Illinois

Becker, Charles J., M.S. (1963)
225 E. Evelyn Avenue
Gresham, Oregon

Belisle, James J., P.E.D. (1961)
Fort Hays Kansas State College
Hays, Kansas

Bennett, Bruce L., Ph.D. (1948)
Ohio State University
Columbus, Ohio

*Benson, David W., Ph.D. (1959)
San Fernando Valley State College
Northridge, California

*Benton, Carl W., Ed.D. (1957)
San Diego State College
San Diego, California

Bernauer, Edmund M., Ph.D. (1963)
University of California
Davis, California

Berringer, O. M., M.S. (1967)
Florida State University
Tallahassee, Florida

*Bethe, Donald R., M.S. (1965)
560 Stinchcomb Drive #8
Columbus, Ohio

*Bierhaus, Frederick W., Ed.D. (1957)
University of Colorado
Boulder, Colorado

*Bischoff, David C., Ph.D. (1958)
University of Massachusetts
Amherst, Massachusetts

Bishop, Roger M., P.E.D. (1961)
Kent State University
Kent, Ohio

Blair, William O., M.S. (1964)
905½ Annette
Socorro, New Mexico

Blamer, William C., M.S. (1967)
2929 Begole
Flint, Michigan

*Blesh, T. Erwin, Ph.D. (1951)
Yale University
New Haven, Connecticut

Block, Robert F., M.A. (1967)
Ohio State University
Columbus, Ohio

Bommer, David R., M.A. (1967)
Ohio State University
Columbus, Ohio

*Boring, Warren J., Ed.D. (1953)
Long Beach State College
Long Beach, California

*Bosco, James S., Ph.D. (1960)
1434 Cherry Garden Lane
San Jose 14, California

Bostian, Larry C., M.Ed. (1966)
9544 Kingcrest Parkway
Baton Rouge, Louisiana

Bovard, Alan J., A.B. (1956)
Michigan Technological University
Houghton, Michigan

*Bowen, Keith E., Ed.D. (1962)
Eastern Michigan University
Ypsilanti, Michigan

Bowers, Louis, Ph.D. (1966)
University of Southwestern Louisiana
Lafayette, Louisiana

Boycheff, Kooman, Ph.D. (1949)
University of California
Berkeley, California

*Boyes, Calvin R., Ed.D. (1963)
Sacramento State College
Sacramento, California

Brady, George F., Ph.D. (1955)
University of Tennessee
Knoxville, Tennessee

Bradley, William B., P.E.D. (1962)
Virginia State College
Petersburg, Virginia

*Breen, James L., Ph.D. (1964)
Tulane University
New Orleans, Louisiana

Brigham, Robert J., M.S. (1961)
Northern Illinois University
DeKalb, Illinois

*Brightwell, D. Shelby, P.E.D. (1959)
Kansas State College
Pittsburg, Kansas

Brogman, Leroy C., M.Ed. (1950)
Augustana College
Rock Island, Illinois

Broekhoff, Jan, Ph.D. (1965)
University of Oregon
Eugene, Oregon

*Brown, Howard S., P.E.D. (1948)
Southern Methodist University
Dallas, Texas

*Browning, Wallace E., Ed.D. (1958)
Idaho State University
Pocatello, Idaho

Bruce, Robert M., M.Ed. (1949)
1457 Cleveland Road
Wooster, Ohio

Bruce, Russell D., M.A. (1965)
Eastern Michigan University
Ypsilanti, Michigan

Bruess, Clint E., M.A. (1965)
650 Brooke Road, Apt. B-17
Glenside, Pennsylvania

*Brumbach, Wayne B., Ph.D. (1953)
University of Oregon
Eugene, Oregon

*Bryant, Fred O., Ed.D. (1961)
Arizona State University
Tempe, Arizona

*Buchanan, Henry E., M.A. (1956)
Texas Tech
Lubbock, Texas

Bucher, Charles A., Ed.D. (1953)
New York University
New York, New York

Bundgaard, Axel C., Ph.D. (1961)
St. Olaf College
Northfield, Minnesota

Bundschuh, Ernest L., M.A. (1966)
University of Maryland
College Park, Maryland

Bunge, William J., M.Ed. (1963)
University of Missouri
Columbia, Missouri

Burke, Pierre V., M.S. (1967)
St. Petersburg Jr. College
St. Petersburg, Florida

*Burke, Roger K., Ph.D. (1958)
Occidental College
Los Angeles, California

*Burnham, Stanley, Ed.D. (1962)
University of Texas
Austin, Texas

Busey, David G., Ed.D. (1963)
Lycoming College
Williamsport, Pennsylvania

Butler, Kenneth N., M.A. (1964)
502 Longview Road, Apt. N
Knoxville, Tennessee

## C

*Caldwell, Stratton F., Ph.D. (1960)
San Fernando Valley State College
Northridge, California

Camaione, David N., M.A. (1966)
MacMurray College
Jacksonville, Illinois

*Campbell, Dan A., M.A. (1967)
California State College
Long Beach, California

Campbell, William R., Dip. (1959)
St. Lukes College
Exeter, England

Carr, Wilbur L., Ph.D. (1962)
Furman University
Greenville, South Carolina

Carrera, Michael A., M.S. (1965)
Kingsborough Community College
Brooklyn, New York

Carson, William B., M.Ed. (1964)
421 Park View Drive
Girard, Ohio

Carter, Gavin H., Ph.D.
35 Oyster River Road
Durham, New Hampshire

*Carter, John E., Ph.D. (1965)
San Diego State College
San Diego, California

Casady, Donald R., Ph.D. (1960)
State University of Iowa
Iowa City, Iowa

Cataldi, Peter P., M.A. (1963)
Syracuse University
Syracuse, New York

Cearley, Jess E., Ph.D. (1961)
North Texas State University
Denton, Texas

Chacos, Louis G., E.Ed. (1963)
9814 Singleton Drive
Bethesda, Maryland

Chaffee, Clarence C., M.A. (1938)
Williams College
Williamstown, Massachusetts

*Chavez, Alfred R., B.S. (1966)
University of California
Los Angeles, California

*Cherry, H. Spurgeon, M.A. (1951)
University of Florida
Gainesville, Florida

Christensen, Charles, Ed.M. (1960)
University of Vermont
Burlington, Vermont

Christenson, Irvin A., M.Ed. (1947)
Concordia College
Moorhead, Minnesota

*Church, Kenneth R., P.E.D. (1965)
209 E. Market
Warrensburg, Missouri

Ciszek, Raymond A., Ed.D. (1954)
AAHPER
1201 16th St. N.W.
Washington, D. C.

Clark, Earl H., M.S. (1964)
3822 W. 13 Mile, Apt. A-6
Royal Oak, Michigan

Clark, James R., Ph.D. (1957)
State College of Iowa
Cedar Falls, Iowa

Clarke, David H., Ph.D. (1961)
University of Maryland
College Park, Maryland

Clarke, H. Harrison, Ed.D. (1931)
University of Oregon
Eugene, Oregon

*Clay, Maurice A., Ed.D. (1964)
University of Kentucky
Lexington, Kentucky

*Clayton, Robert D., Ed.D. (1963)
University of North Dakota
Grand Forks, North Dakota

Clegg, Richard, Ed.D. (1967)
California State College
Long Beach, California

*Cleland, Troy S., M.S. (1964)
771 Mariquita Drive
Santa Barbara, California

Clower, Richard A., Ed.D. (1963)
413 Geneva Drive
Westminster, Maryland

Cloyd, Ed L., Jr., M.A. (1964)
Atlantic Christian College
Wilson, North Carolina

Coates, Edward, Ph.D. (1966)
590 Hartford St.
Worthington, Ohio

Cobb, John W., Jr., P.E.D. (1964)
Texas Tech
Lubbock, Texas

Cochrane, Cornelius R. P., Jr., M.A. (1954)
Bowling Green State University
Bowling Green, Ohio

Coder, Alden C., Ed.D. (1958)
Montclair State Teachers College
Montclair, New Jersey

*Cogan, Max, Ed.D. (1961)
Northeast Missouri State Teachers College
Kirksville, Missouri

*Colberg, Gary James, M.A. (1967)
University of California
Davis, California

Coleman, Cecil N., M.A. (1961)
Fresno State College
Fresno 26, California

Colgate, John A., Ph.D. (1964)
Western Illinois University
Macomb, Illinois

*Comer, James L., E.Ed. (1967)
California State College
Hayward, California

Conger, Ray M., M.A. (1956)
Pennsylvania State University
University Park, Pennsylvania

Conroy, John J., Ed.D. (1949)
Princeton University
Princeton, New Jersey

Constantz, Quinn, Ed.D. (1964)
Western Carolina College
Cullowhee, North Carolina

*Cooper, Samuel M., Ed.D. (1953)
Bowling Green State University
Bowling Green, Ohio

Cooper, Stewart E., Ph.D. (1964)
Texas A and I College
Kingsville, Texas

Cordts, Harold J., Ed.D. (1958)
State Teachers College
Frostburg, Maryland

*Corley, Vaughn D., M.A. (1963)
New Mexico State University
University Park, New Mexico

*Costa, Felix T., Ed.D. (1960)
California State College
Los Angeles 32, California

Costello, Richard A., M.S. (1956)
Gorham State Teachers College
Gorham, Maine

Costill, David L., M.Ed. (1965)
Ball State University
Muncie, Indiana

Cousins, George F., D.A.E. (1955)
Indiana University
Bloomington, Indiana

Coutts, Curtis A., M.A. (1965)
Harpur College
Binghamton, New York

Craft, Lester R., M.A. (1963)
Georgetown College
Georgetown, Kentucky

*Craker, James G., Ph.D. (1967)
California State College
Los Angeles, California

*Crawford, Wayne H., Ed.D. (1947)
University of California
Irvine, California

Crocker, Edward A., B.S. (1960)
Dupont Athletic Center
Massachusetts Institute of Technology
Cambridge, Massachusetts

*Crowe, Walter C., Ed.D. (1957)
Long Beach State College
Long Beach, California

*Cullum, William H., M.A. (1963)
San Fernando State College
Northridge, California

Cureton, Thomas K., Ph.D. (1929)
University of Illinois
Champaign, Illinois

*Cutler, Russell K., Ph.D. (1955)
Chico State College
Chico, California

Cutter, A. Ross, Jr., Ed.D. (1962)
Whitworth College
Spokane 53, Washington

## D

Dauer, Victor P., Ph.D. (1958)
Washington State University
Pullman, Washington

Daugherty, John B., Ph.D. (1953)
Indiana University
Bloomington, Indiana

*Davies, Joseph E., M.A. (1959)
Colorado School of Mines
Golden, Colorado

* (1) Davis, Elwood C., Ph.D. (1931)
San Fernando Valley State College
Northridge, California

*Davis, Robert W., M.A. (1967)
228 16th Street, Apt. # 1
Seal Beach, California

DeCarlo, Thomas J., M.A. (1963)
11 Highwood Road
East Norwich, Long Island, New York

*Derocco, Ira T., M.S. (1961)
North Texas State University
Denton, Texas

Degutis, Ernest W., Ed.D. (1964)
Western State College of Colorado
Gunnison, Colorado

*Delamater, James B., Ed.D. (1947)
New Mexico State University
University Park, New Mexico

Dellastatious, Joseph W., M.S. (1956)
The Citadel College
Charleston, South Carolina

*Dempsey, Cedric W., Ph.D. (1964)
University of Arizona
Tucson, Arizona

*Devine, Barry M., Ph.D. (1962)
San Fernando Valley State College
Northridge, California

Dick, Bruce V., M.S. (1965)
State University College
Oswego, New York

*Dickinson, Arthur L., Ph.D. (1964)
Arizona State University
Tempe, Arizona

DiFabio, James V., M.A. (1965)
379 North 7th Street
Newark, New Jersey

DiGennaro, Joseph, M.S. (1962)
Hunter College in the Bronx
New York, New York

Dintiman, George B., Ed.D. (1967)
Southern Connecticut State College
New Haven, Connecticut

Dioguardi, William P., M.S. (1958)
Montclair State College
Upper Montclair, New Jersey

Dodson, Nathan T., D.P.E. (1958)
Wake Forest College
Winston-Salem, North Carolina

Dohrmann, Paul F., Ph.D. (1964)
509 Manchester Road
Normal, Illinois

* (1) Donnelly, Richard J., Ph.D. (1953)
University of Minnesota
Minneapolis, Minnesota

*Doolittle, Theus L., Ph.D. (1966)
California State College
Los Angeles, California

*Doornink, Robert H., Ed.D. (1967)
Washington State University
Pullman, Washington

Dorey, Edward A., Ed.M. (1966)
University of Minnesota
Minneapolis, Minnesota

Douthitt, John Edward, M.A. (1961)
North Texas Station
Denton, Texas

Drews, Frederick R., P.E.D. (1964)
University of Rhode Island
Kingston, Rhode Island

Drowatzky, John N., Ed.D. (1966)
University of Toledo
Toledo, Ohio

Dunbar, Henry F., Jr., Ph.D. (1949)
Amherst College
Amherst, Massachusetts

Duncan, Raymond O., Ed.D. (1953)
University of West Virginia
Morgantown, West Virginia

Dunsing, Paul, M.A. (1967)
George Williams College
Downers Grove, Illinois

## E

Eberhardt, W. C., M.A. (1956)
St. Louis University
St. Louis, Missouri

Edgar, Harold S., M.A. (1966)
3109 49th Street
Lubbock, Texas

Edgington, Charles W., Ed.D. (1966)
Bemidji State College
Bemidji, Minnesota

*Edwards, Donald K., P.E.D. (1961)
University of California
Riverside, California

Ellison, Leo, Jr., M.S. (1962)
Wake Forest College
Winston-Salem, North Carolina

Erickson, Carl E., Ed.D. (1954)
Kent State University
Kent, Ohio

Esslinger, Arthur A., Ph.D. (1947)
University of Oregon
Eugene, Oregon

Evans, Thomas M., P.E.D. (1951)
Kansas State University
Manhattan, Kansas

Everett, Peter W., Ph.D. (1965)
Florida State University
Tallahassee, Florida

*Ewers, James R., Ph.D. (1963)
Akron University
Akron, Ohio

*Eyler, Marvin H., Ph.D. (1956)
University of Maryland
College Park, Maryland

## F

Fairey, Marion C., M.A. (1966)
Mitchell College
Statesville, North Carolina

Fait, Hollis, Ph.D. (1953)
University of Connecticut
Storrs, Connecticut

*Falgren, Lloyd H., Ed.D. (1966)
Central Missouri State College
Warrensburg, Missouri

Fallon, Thomas W., Ed.D. (1948)
Notre Dame University
South Bend, Indiana

Faria, Irvin E., M.A. (1959)
Sacramento State College
Sacramento, California

Feld, Allen A., M.S. (1954)
Queens College
Flushing, New York

Fenstemacher, William R., M.A. (1949)
10410 S. Peoria St.
Chicago, Illinois

*Ferzacca, F. L., M.S. (1967)
Eastern Michigan University
Ypsilanti, Michigan

Field, David A., Ed.D. (1951)
University of Bridgeport
Bridgeport, Connecticut

Finanger, Kenton E., M.S. (1963)
306 Ohio St.
Decorah, Iowa

Fischer, Julius A., Jr., M.A. (1951)
Kent State University
Kent, Ohio

*Flanagan, Lance, Ed.D. (1956)
University of California
Berkeley, California

Flath, Arnold W., Ph.D. (1963)
University of Illinois
Urbana, Illinois

Fleischer, Michael M., Ed.D. (1963)
Hunter College in the Bronx
Bronx, New York

Flory, Clarence M., Ed.D. (1958)
Tarleton State College
Stephenville, Texas

Flowers, Hubert A., M.A. (1948)
State Teachers College
Florence, Alabama

Flynn, Richard B., M.Ed. (1967)
Middlesex County College
Edison, New Jersey

Foglia, Guido F., M.A. (1954)
Queens College
Flushing, New York

Fordham, Sheldon L., Ed.D. (1948)
University of Illinois
Chicago, Illinois

*Foreman, Kenneth E., Ed.D.
Seattle Pacific College
Seattle, Washington

Fourier, Arthur E., Ph.D. (1951)
Auburn University
Auburn, Alabama

Fox, John W., Ed.D. (1961)
Northeastern University
Boston 15, Massachusetts

*Fraleigh, Warren P., Ph.D. (1955)
San Jose State College
San Jose, California

Fraley, Lester M., Ph.D. (1950)
University of Maryland
College Park, Maryland

Frank, James, Ph.D. (1963)
Hunter College in the Bronx
New York, New York

Franks, Burleigh D., M.Ed. (1967)
306 W. California Avenue
Urbana, Illinois

Frederickson, Loel D., Ed.M. (1965)
Moorhead State College
Moorhead, Minnesota

Fricker, Henry F., Ed.D. (1963)
Fresno State College
Fresno, California

Fritz, Harry G., Ph.D.
Western Illinois University
Macomb, Illinois

*Frost, Reuben B., Ph.D. (1957)
Springfield College
Springfield, Massachusetts

Fulton, Gere B., M.A. (1965)
Temple University
Philadelphia, Pennsylvania

Furman, David C., Ed.D. (1948)
University of Puerto Rico
Rio Piedras, Puerto Rico

## G

Galasso, Pasquale J., M.A. (1962)
University of Windsor
Windsor, Ontario, Canada

*Gallon, Arthur J., Ed.D. (1956)
University of California
Santa Barbara, California

*Gans, Marvin, Ed.D. (1967)
14808 Auburndale
Livonia, Michigan

Gardner, Robert N., M.Ed. (1948)
Lincoln University
Lincoln, Pennsylvania

Gary, Mitchell J., M.A. (1946)
Western Michigan University
Kalamazoo, Michigan

Gates, Paul L., Ed.D. (1967)
Northeast Missouri State College
Maryville, Missouri

*Geddes, David D., Ph.D. (1963)
Brigham Young University
Provo, Utah

*Gedvilas, Leo L., M.S. (1948)
31 S. Wright
Naperville, Illinois

Geier, Jacob G., M.A. (1953)
University of Nebraska
Lincoln, Nebraska

Geiser, Daniel S., Ed.D. (1959)
Bridgewater College
Bridgewater, Virginia

*Geser, L. Richard, Ph.D. (1967)
University of Utah
Salt Lake City, Utah

Getchell, Leroy H., Ph.D. (1964)
Ball State University
Muncie, Indiana

Gilbert, Paul F., M.P.E. (1964)
707 Maple Street
Tarkio, Missouri

Gillis, Robert J., M.A. (1959)
Adrian College
Adrian, Michigan

*Gilmore, John D., M.A. (1963)
Stanford University
Stanford, California

Gingerich, Roman L., M.A. (1950)
Goshen College
Goshen, Indiana

*Glass, Walter R., M.A. (1960)
George Pepperdine College
Los Angeles, California

Glinski, John V., Ph.D. (1964)
State University College
Oswego, New York

Godwin, Paul A., B.S. (1964)
Virginia State College
Petersburg, Virginia

Gordin, Richard D., M.A. (1954)
Ohio Wesleyan University
Delaware, Ohio

Gordon, James A., M.A. (1951)
Miami University
Oxford, Ohio

*Governali, Paul, Ed.D. (1955)
San Diego State College
San Diego, California

Grambeau, Rodney J., Ed.D. (1953)
University of Michigan
Ann Arbor, Michigan

Granger, Rocheleau Z., M.A. (1956)
Clark University
Worcester, Massachusetts

Gratz, James, M.S. (1967)
905 Wayne Street
North Manchester, Indiana

*Gray, Charles A., Ed.D. (1965)
Alma College
Alma, Michigan

*Gray, Gordon M., M.A. (1965)
College of San Mateo
San Mateo, California

Gray, Marvin R., M.A. (1965)
Ball State University
Muncie, Indiana

Gray, Ronald F., M.A. (1966)
611 College Avenue
Lancaster, Pennsylvania

Green, Elton E., M.S. (1962)
178 Jackson Housing
Greeley, Colorado

Greer, H. Scott, M.A. (1964)
Western Illinois University
Macomb, Illinois

*Grier, Marvin, M.A. (1967)
Arizona State University
Tempe, Arizona

Griffiths, M. G., M.A. (1953)
University of Toronto
Toronto, Canada

Groves, William H., Ph.D. (1953)
Eastern Illinois University
Charleston, Illinois

Gruber, Joseph J., Ph.D. (1965)
2240 N. River Road
West Lafayette, Indiana

Guemple, Charles E., M.A. (1967)
Ball State University
Muncie, Indiana

Gunkler, Oscar H., Ed.D. (1966)
Berea College
Berea, Kentucky

Gunsten, Paul H., Jr., M.A. (1965)
Bridgewater College
Bridgewater, Virginia

*Gustafson, William F., Ph.D. (1962)
San Jose State College
San Jose 14, California

*Gutin, Bernard, Ph.D. (1964)
Hunter College in the Bronx
Bronx, New York

## H

Hackney, Rufus, R., Jr., M.E. (1964)
St. Andrews College
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Stanford University
Stanford, California

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Queens College
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